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A REVIEW OF THE MEDICAL LITERATURE OF 1903.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Investigations concerning the functional state of the kidneys have continued throughout the year with much enthusiasm. Casper and Richter, Koranyi and others who have been foremost in advocating cryoscopy, the phloridzin test, etc., have corroborated their early results and attribute the greatest importance to their findings.

Israel, who does perhaps as much kidney surgery as any present-day surgeon, is still dubious as to the absolute reliability of these methods. He believes that the results do not have the same significance in all cases, and says that we are not yet out of the danger of occasionally losing nephrectomized cases from an insufficiency of the remaining kidney. He has observed cases in which, in spite of a sufficient kidney function, an abnormally high freezing point of the blood existed (malignant kidney tumors, pyonephrosis, etc.). On the other hand, insufficiency of the kidneys, accompanied by a hydremia, may simulate normal conditions. He recalls a case, in fact, in which the normal freezing point of the blood was found in a case of anuria of four days standing, with beginning uremia, the result of destruction of the right and occlusion of the left purulent kidney. This was due to the fact that there existed simultaneously hydremia and anemia.

Israel does not agree with Casper and Richter in their statements with reference to the direct ratio between the amount of sugar excreted after the phloridzin injection and the amount of functioning kidney parenchyma. He thinks that the phloridzin method does not permit of certainties in diagnosis, but of probabilities. Casper and Richter maintain, however, that in eighty-eight operations they have not had occasion to report a single death. The function of the supposedly normal kidney is tested in every case, and, if found sufficient, operation upon the other is advised. Their results have certainly been very convincing. They have modified their original statement somewhat with reference to the direct ratio between the sugar excretion after phloridzin injection and the functioning parenchyma, and now state that "the absence of sugar excretion after phloridzin points to a high degree of kidney destruction; the greater the amount of functioning kidney parenchyma remaining, the greater is the phloridzin glycosuria."

Bujewitsch agrees with Koranyi, that cryoscopy not only enables one to determine the state of the kidneys, but permits of certain conclusions as to the portion of the parenchyma involved, viz.: the glomeruli or the tubules, or both.

According to Koranyi, compensatory disturbances of the heart, and changes in the constituents of pleuritic and peritoneal exudates, are manifested early in corresponding cryoscopic changes in the urine.

Bujewitsch considers the determination of the freezing point of greater importance even than the microscopic and chemical findings, because it permits of a diagnosis even in the absence of casts, albumen, etc., and at the same time gives an idea as to the severity of the disease.

Mircoli says that kidney diseases belong to a class which often remain latent. He finds that it is possible in alcoholism, gout, lead intoxication, etc., to determine through cryoscopy when the functional insufficiency of the kidneys begins even in the absence of manifest symptoms. He finds the methylene-blue method of Archard and Castaigne (rosalin, salicylic acid, potassium iodide and phloridzin) inadequate for exact purposes. Mircoli recognizes two mechanisms in the kidney—that of water secretion through the glomeruli, and that of the solids through the epithelium of the uriniferous tubules. Through the observation of the concentration and quantity of the urine in every phase, at various times during the day, in normal and abnormal conditions, he finds that the amounts of the solids and liquids bear a constant relationship to one another in the normal and vary greatly in diseased conditions.

Senator calls attention to a unilateral contraction of the abdominal walls which often occurs in stones in the kidney and inflammatory processes in the kidney pelvis.

In spite of the fact that many question the existence of a physiological albuminuria, Senator mentions that it may occur following physical exertion, cold baths, hearty meals, excitement, etc. He believes that through constant overexertion a disease of the kidney may develop. He calls attention to the fact that albumosuria is not revealed through boiling, and that a cold test should therefore be made in every case. Albumosuria may occur before or after albuminuria and is a warning of great importance. He considers the Bence-Jones bodies a tolerably sure sign of the existence of some severe, anemia producing disease of the bones. Casts are a product of disturbed action of the epithelial cells of the uriniferous tubules. Their absence does not permit of the conclusion that no disease exists. Their development without albumen points to a localized affection of the kidneys. Senator was one of the first to maintain, and still upholds the belief, that the leucocytes of the urinary sediment in Bright's disease are chiefly mononuclear, in contrast to those from the kidney pelvis, bladder and urethra.

Leclerc believes that a diagnosis of chronic interstitial nephritis may be made without the presence of albumen and casts in the urine. In such a case he basis a diagnosis upon the following symptoms: hypertrophy of the heart, gallop rhythmus, accentuation of the second aortic sound, high tension, rapid pulse, polyuria, light color and low specific gravity of the urine, dyspnea at night and upon exertion.

Though promulgated by Widal about two years ago, the so-called cyto-diagnostic has recently received a new impetus, and has been the subject of much careful study. Under this head is understood a diagnostic method em-

ployed for the determination of the etiologic factor in the production of effusions in the various serous sacs. It depends upon the prevalence of the cellular elements in the exudates and the ratio they bear to one another. The examination of the exudates for a series of cases led Widal and his students to the conclusion that if the lymphocytes prevail—*i. e.*, the mononuclear leucocytes—we have to deal with a tubercular process (pleuritic, peritoneal, cerebro-spinal, as the case may be): that if the polynuclear cells outnumber—*i. e.*, the neutrophile and eosinophile white corpuscles—the process is of an infectious, non-tubercular process (staphylo-strepto-pneumo-meningococci, etc.): that if the endothelial cells prevail it points to a mechanical process (transudate in heart, kidney, liver diseases, etc.).

Litten, Dopter, Dieulafoy and others corroborate these views in great part, but with certain important modifications. It has been found that during the acute stage of tubercular processes, polynuclear cells may be present in moderate numbers, that the lymphocytes begin after the second week to make their appearance. Ravout reports a case in which an early puncture showed polynuclear cells almost exclusively, and eleven days later they had given place entirely to the lymphocytes. It is well, therefore, if in doubt, to make repeated examinations. Most of the observers agree with reference to the non-tubercular infections.

Of late the examination of the cerebro-spinal fluid has attracted the attention of those heretofore interested in the subjects just touched upon. The lumbar puncture gives ready access to the cerebro-spinal fluid, which normally contains no cellular elements. This fact, while doubted by a few, is borne out by a very large majority of the observers. The rules which apply to the exudates of other serous sacs also apply here. Griffon, Achard, Arloing and others bear out the view that lymphocytes are the prevailing cellular elements in tubercular meningitis, while the polynuclear cells prevail in other infections of the meninges.

It must be noted, however, that Courmont and Arloing found no cellular elements in a case of undoubted tubercular meningitis, while Barjon found lymphocytes and polynuclear leucocytes in equal numbers in one case.

The recent observations of Sicard, Babinsky, Widal and others have created much interest among neurologists and internalists. They have found that lymphocytosis exists in general progressive paralysis, tabes dorsalis and meningomyelitis, and is absent, or normal at any rate, in the cerebro-spinal fluid in hemiplegia, epilepsy, alcoholism, peripheral neuritis, diseases of the muscular system, neuroses, psychoses and brain tumors.

The subject offers a splendid field for further research. The method promises to be quite as important and quite as exact as many which have been long employed. Like many other rules, these also have their exceptions. Though raised by some, this objection cannot belittle the importance of cytodagnosis.

Of late more attention than usual has been devoted to a consideration of the proteolytic function of the gastric juice. Indeed, since the appearance of Pawlow's epoch-making work on the digestive glands a new impetus has been given to a consideration of the physiology of digestion in general in its application to therapeutics. More and more are we being brought to a realization of the importance of a thorough knowledge of dietetics in the treatment of gastro-intestinal disturbances and the relative unimportance of drugs. There can be no doubt

but that the gastric secretions can be controlled in a very large measure by variations in diet, and the sooner the subject is considered seriously by therapeutists, as well as physiologists, the sooner will we meet with desired results in the treatment of gastric disturbances. In the consideration of the proteolytic function of the gastric juice, the Mett method, though not all that could be desired, seems to be the most practical and, therefore, the most popular.

Though little that is new has been added to our knowledge of the subject, the usual number of papers have appeared on disturbances of gastric motility. There are but few now who do not concede that motility is the stomach's most important function. A subject, therefore, of such importance bears much repetition, and cannot be worn threadbare.

Though a few scattering articles have appeared on the subject of absorption in the stomach, its importance to the therapist grows less and less. The question has a great scientific interest, but less practical importance.

Our knowledge of the pancreas has increased very rapidly in the past twelve months. This, too, is largely due to the new impulse given to the work through the publications of Pawlow on the physiology of the pancreas and to the interesting work by Opie and others on the pathology. These revelations have added materially to our ability to clear up diseases of an organ which has been up to this time but little understood.

There has been much discussion with reference to the succussion sound (Plaetschergerausch) and its relationship to atony of the stomach. Spiller has long maintained that the epigastric succussion sound is a pathognomonic symptom of atony of the muscles of the stomach, and especially so when present a long time after the ingestion of food. Elsner, on the other hand, considers the phenomenon nothing more than an accompanying symptom of gastropnoia in cases of relaxed abdomen. Cohnheim takes an intermediate stand; he does not consider the succussion sound a symptom of atony *per se*, but believes that in the absence of relaxed abdomen it is an indication of Spiller's asthenia universalis congenita, the so-called habitus enteroptoticus. He thinks it may exist in perfectly normal individuals, in whom the predisposition to neurasthenia gastrica exists. He considers it a signal of warning, and anyone presenting the symptom is always in danger of developing a nervous, functional, chronic stomach trouble. There is a wide difference of opinion, therefore, among careful observers with reference to this sign. If one would base one's opinion of the subject upon the literature alone, it would be very difficult to arrive at a definite conclusion. The probabilities are that the succussion sound accompanies every case of atony, but that there is not necessarily atony in every case in which the succussion sound occurs.

v. Aldor claims to have obtained excellent results in his treatment of chronic colitis through the use of high injections. His observations on the subject have extended over a period of five years, and have been so satisfactory that he feels compelled to differ with those who claim that it is not possible to pass a rectal tube throughout the length of the colon. Aldor claims to introduce a rectal tube 85 cm. in length into the colon, through which he empties from one to three liters of Carlsbad Sprudel water heated to 45-50 C. These injections are applied every day for a period of twenty to twenty-five days, gradually increasing the amount from one to two and one half liters. He maintains, in opposition to Boas, Pollatzek and others, that the application of small quantities of

water is practically worthless, especially when given in the form of a simple rectal injection. The effect of such a procedure must be purely local, and could have no influence upon a general colitis.

Boas, on the other hand, not only does not favor large quantities of liquid, but even considers it dangerous, maintaining that it produces a dilatation of the rectum and sigmoid with tenesmus. v. Aldor states that such cannot be the case when the high injections are made.

Boas does not believe that a tube can be passed through the sigmoid flexure, and states that he has never succeeded in passing a tube further than 15-20 cm. In those cases in which it is claimed that the tube was introduced a half meter or more it has simply been coiled up in the rectum. This he has demonstrated, not only upon the living, but also upon the cadaver.

Though it is possible that v. Aldor has, as he claims, succeeded in introducing the rectal tube 85 cm. into the bowel, the weight of the evidence is against him. He bases his statements purely upon the clinical results obtained in his cases, while those who differ with him have conducted careful investigations along this line based upon anatomical relations. It remains now for v. Aldor to prove that the tube is in the colon and not rolled up in the rectum, which should not be a difficult matter.

In 366 cases of intestinal carcinoma, Boas observed twelve cases of diabetes. In five cases the diabetes was still manifest, in the other seven it had disappeared before the appearance of the carcinoma. He noticed in four cases that the carcinoma advanced with the diabetes, and in cases in which the diabetes decreased the carcinoma progressed more slowly. It is hardly probable that the carcinoma produces the diabetes. Glycosuria is primary; carcinoma is secondary. It is interesting to note that with the beginning of carcinoma there is often noticed an increased tolerance for carbohydrates. He observed that latent diabetes is sometimes made manifest by an operation. He advises that, if possible, the patient should be subjected to rigid treatment before the operation, in order to reduce the sugar as much as possible.

The observations of Dunbar, of Hamburg, relative to hay fever have been widely published and have evoked no little interest in every land in which this disease exists. If we may accept his preliminary experiments as final, many of our long-cherished theories concerning the affection must be discarded. His results are certainly quite conclusive, and there can be no doubt that he has found the solution to the etiological factors concerned in a certain class of cases. Dunbar has demonstrated the existence of a poison in pollen which he has been able to isolate. The pollen is dissolved in ether and the toxin precipitated with alcohol.

This toxin is very readily soluble in saliva, tears, nasal mucus and in blood serum. When this toxin is introduced into the nose and conjunctival sac of those disposed to hay fever, regardless of the season of the year, it produces sneezing, itching, tearing, etc. If introduced subcutaneously it produces, aside from these symptoms, dizziness, hoarseness, pain in the chest, audible breathing, etc. He was able to produce a short period of immunity in those subject to hay fever by injecting, hypodermically, the serum removed from animals that had been inoculated with the poison. Those who on previous days showed a marked reaction to the pollen applied to the nose or eyes, after such an inoculation showed none whatever. This immunity lasted but twenty-four hours.

If, on the other hand, serum is mixed with the pollen toxin it is rendered

practically inert, such a mixture producing no symptoms if injected hypodermically or applied locally to the nasal mucous membranes. Some animals show a greater susceptibility to the poison than do others—goats and rabbits being especially susceptible. The author has experimented with pollen from various climes and has succeeded in obtaining rather constant results. Patients have been reported entirely relieved during their critical periods through the persistent use of the serum. Though the application of such a serum may not prove entirely practical as a therapeutic measure, it will at least enable us to differentiate between the true and false types of hay fever.

The antitoxin has no effect whatever on cases of bronchial asthma, cardiac asthma, influenza and nervous affections of the upper respiratory tract.

The sleeping disease, though unknown in our country, is of universal interest. During the past year several expeditions have been sent to West Africa for the special purpose of studying this disease. Not until 1887 did the affection begin attracting serious consideration. All negroes in this clime over three years of age may develop the disease. Children under three seem to be immune. It begins with loss of weight, delirium, pain in the back and occiput, and, finally, sleep. It may last from twenty days to twelve months and invariably terminates fatally. Europeans seem to be immune.

Sombon and Castelloni attribute the cause of the disease to trypanosomen in the cerebro-spinal and ventricle fluids. They believe that they are transmitted through the eating of raw fish which have been infected by the Tsetse fly. The disease is in all probability infectious and transmitted through the saliva.

Manson reports four cases of trypanosomen infections on the Congo. The clinical picture is altogether different from that of the sleeping disease, and occurred in Europeans. While it is probable that the entrance of the trypanosomen into the central nervous system would produce a peculiar set of symptoms, it does not seem probable that this possibility is confined to the negro alone.

These parasites live in the blood plasma and multiply by division. If they appear in the peripheral circulation a prolonged remittent type of fever develops. They can frequently be found in the bone marrow after the disappearance of the fever.

Kober presented at the last meeting of the Association of American Physicians a very complete resume of clinical reports upon the transmission of bovine tuberculosis. He has tabulated some eighty-five cases. This careful review of clinical cases, which were reported by most reliable observers, when taken in connection with laboratory experiments, seem to justify the author's conclusions. He believes firmly that tuberculosis may be transmitted to man through the milk of tuberculous cows. The danger from this source cannot be measured by the actual number of recorded cases, but should be judged, in part at least, by inoculation and feeding experiments and the accidental wound infections, which have established the intercommunicability of bovine and human tuberculosis. He believes that Koch's theory that human and bovine tuberculosis are distinct and that human tuberculosis cannot be conveyed to cattle, has been disproved. He warns the medical profession against the acceptance of these theories until further and more convincing proofs are offered.

Trudeau agrees that avian, bovine and human tuberculosis are alike, and claims to have demonstrated that avian tuberculosis will protect rabbits against that of man.

Behring and others have immunized cows against infection by bovine tuberculosis by preventive inoculations of cultures of human origin.

A year ago this subject was mentioned by us in a similar review. The subject has not been cleared up through this year's work, but the results of the greater part of it seem to be opposed to the theories expressed by Koch at the British Tuberculosis Congress.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Probably more has been written during the past year upon the surgery of the digestive tract than upon any other one subject. The vital importance of the subject seems to have stimulated authors and operators to do their best to advance our knowledge and technique as here applied. An exhaustive article by Brunner on acute perforating gastric and duodenal ulcers, contains the knowledge that the accident is ten times as common among men as among women, something which is, of course, of value from the standpoint of differential diagnosis. A point of great value in this connection is, also, the information that the patient has suffered for years from the well-known symptoms of chronic ulcer. The best form of operative treatment is excision of the ulcer and suture; all other methods of patching with omentum, etc., being of doubtful value by comparison. Statistics teach that about one-third of the stomach cases are cured by operation, while the prognosis for a like lesion in the duodenum is somewhat worse.

Congenital intestinal occlusion in the new-born is exceedingly rare, as shown by Savariaud, and is located, in far the larger per cent. of cases, in the small bowel, high up. The lesion is, further, frequently multiple, as many as five having been observed in the same individual. In addition to the ordinary symptoms of obstruction, there can be no feces found in the colon upon washing, and the child usually dies in from five to seven days. In forty-four collected cases, not one was saved by operation, though it was resorted to in all.

Duval calls attention to what he calls "idiopathic dilatation of the large intestine;" consisting, as the name indicates, of an abnormal distention of the gut, it may be locally or of the entire colon. The wall of the gut gradually undergoes a pronounced change, while the leading symptom consists of retention of feces, in one case for thirty days. At the same time severe diarrhea has been observed; an evidence of colitis. Of forty-seven recorded cases, thirty-four died early in the disease.

Thrombosis and embolism of the mesenteric vessels have always been a bug-bear of intestinal surgery; the statement is borne out by the report of four cases by Falkenburg, none of which were operable. This is not invariably true, however, as shown by the two cases of Elliot and Sprengel, both of these surgeons having been so fortunate as to save their patients, though it must be admitted that the operations (the only successful ones of the kind in the history of surgery) were both done while the patients were still in excellent condition.

In the study of intestinal obstruction, nothing is of more importance than the character of the narcosis employed. Provided this be of a general nature, we always have to do with the danger which arises from the inspiration of vomited fecal matter. This danger had never been successfully combated until Kausch invented a device for plugging the cardiac outlet of the stomach during the narcosis. This consists of a stomach tube fitted to a hollow rubber ball, which is introduced into the stomach, then inflated and withdrawn until it blocks the outlet. Through the tube in question the stomach can be emptied as the intestinal contents enter it, but nothing can escape around the tube and thus be drawn into the air passages. Meanwhile, the general anesthetic is administered without interruption.

Beyea claims the credit for an original operation in his recent proposition to elevate the displaced stomach by plication with sutures of the gastro-hepatic and gastro-phrenic ligaments. He places a row of interrupted sutures clear across, taking about four centimeters of tissue in each; these are run in the vertical direction as a matter of course, and when they are tied have the desired effect. His oldest case has been under observation for a period of five years, having gained no less than forty pounds during this period.

We seem never to be able to settle the much-mooted question regarding the length of bowel which can be resected without sacrificing the life of the patient. Nagano, who has made a large number of animal experiments, expresses the opinion that one-half of the small gut can be removed without death; and even more than that, if it be the ileum which is chiefly affected. The matter becomes altogether different, however, when the uppermost portion of the small bowel is affected; here the tissue weighs more for a given length, and contains a greater number of glands, showing that it is of greater importance, thus explaining why it is that we cannot remove as much of the lower as of the upper portion of the small bowel.

One of the numerous reasons for intestinal obstruction is volvulus of the cecum, due to shrinkage of the mesentery. In a lengthy article, Brehm throws much light upon the mechanics of the undesirable condition. In some cases the shortening is so great in the mesentery that the two limbs of the gut are made to approach very closely to each other, and then it is easy to understand that a condition which might not otherwise give rise to the slightest trouble, can easily bring about a twisting upon its axis of the whole loop. One of the diagnostic features of this malady of the sigmoid is, that it can often be reduced by a high injection of water. Still it must be added, that many of the victims never have an actual attack of obstruction, but merely suffer from chronic constipation. Various therapeutic measures have been suggested. It is not enough to merely reduce the volvulus, nor is it sufficient to attach the bowel to the parietes, since that does not protect the individual against a recurrence; either a resection must be done, or else an entero-anastomosis between the two limbs of the loop must be made.

Entero-anastomosis is highly praised by Prutz as the best means of circumventing all sorts of mechanical obstructions; especially is this true, of course, in case the obstruction cannot be removed as such. The author admits, however, that the most effective anastomosis which can be made, will not divert all of the fecal stream from a fecal fistula which it is desired to close in this way. Of course, an anastomosis cannot be expected to be of the greatest service where

the muscular power of the bowel has been seriously impaired: here an enterotomy is of far greater value.

In no department of the surgery of the digestive apparatus has more advance been made than in that of the rectum for cancer. Since the original operations by Kraske and Kocher, there has been a constant attempt to make the process more simple and lower the mortality. Wensel has recently written of how Witzel strives to make extirpation of the rectum an aseptic and bloodless operation. This he does primarily by sacrificing the anal portion altogether. At best, it is of doubtful value after a segment of the rectum has been removed, while its preservation brings with it certain and grave dangers. The author does not resect any portion of the sacrum, ligates all of the hemorrhoidal arteries, and then, after removing as much of the bowel as may be necessary, contents himself with making a gluteal artificial anus. Of seventeen patients operated upon after this fashion, not one died as a result of collapse or of hemorrhage.

One of the most interesting reports of operations upon the upper portion of the digestive tract comes from Mandleberg, who removed a section out of the continuity of the esophagus, and then did a large amount of plastic work in closing the resulting fistulæ. First, a low fistula was made, through which the patient was nourished for a month, and then five centimeters of the tube, including a carcinomatous constriction above the opening, were resected. Then, after two trials, they accomplished the feat of manufacturing a posterior esophageal wall out of a skin flap, which was allowed to heal in place, and later was brought together in the median line, completing the tube. One year later all was completely healed, the patient swallowed as well as ever, and the section of esophagus which was composed of skin seemed in every way to perform its function as well as the remainder of the tube.

Contusion of the abdomen, with or without visceral injury, still offers a fruitful field for endeavor. We still find it difficult to make the differential diagnosis in many cases, while the treatment is often unsatisfactory unless it be instituted very early. Fraenkel writes that a gradually increasing temperature, no matter what the other symptoms, always has indicated, as far as his experience has gone, a serious visceral lesion. He lays stress on the fact that the patient must be seen every hour during the time that the surgeon is trying to make up his mind whether or not to operate, else he will not be in position to appreciate changes in the condition as they arise. He warns against the too free use of saline and other stimulants, since there is danger of increasing the quality of the pulse so much that the attendant may be deceived thereby even when a serious internal lesion exists.

Formerly we allowed all those typhoid patients who suffered a perforation to die, but now it has generally become a recognized surgical procedure to operate, since we have seen, from large statistics, that from one-fifth to one-fourth of these unfortunates can be saved. Fix, of Paris, expresses the urgency of the matter aptly when he states that he considers operation as necessary in these cases as the operative opening of the air-passages in diphtheritic stenosis. This entire subject of the surgical treatment of typhoid perforation seems to have been revolutionized by the work of Escher, who wrote with especial reference to the advisability of sewing up the perforation or of establishing an artificial outlet instead. He compared the results obtained by laparotomy in which the

perforation was not found at all, but the belly simply packed and a fistula allowed to form, with the results accomplished in those cases where the perforation was sutured, and found that only about half as many of the latter recovered as did where no gut sutures were introduced. In consequence, he treated four perforations by simply bringing the affected loop up to the wall and allowing a fistula to form, whereupon three patients recovered—something which had not been accomplished by any other operator. His reasons for adhering to this course are, that the gut is thus not narrowed at the site of suture, a paralytic ileus is avoided, and, most important, the operation is expediated. These results are simply in line with what Lund wrote about—the value of enterostomy in selected cases of peritonitis; its chief value lying in the relief of toxic substances retained within the bowel, which otherwise would not be expelled on account of a paresis due to the peritonitis. Of course, the making of a fistula is recommended only after all other means have failed. Of four such cases the author saved three; surely a good argument for his point.

Lennander has done so much good work that his opinion of abdominal questions must always deserve respect. He says when in doubt, always operate in an acute case. As a help to diagnosis in appendicitis, attention is called to the fact that pain accompanies such lesions only after the nerves in the parietal peritoneum have become affected in some way. This is proven by the author's previous work along this line showing that there is no sensation to the hollow viscera except when the mesentery is dragged upon. As far as the interval operation in appendicitis is concerned, the author advises it in every case where there has been *one* attack of the malady.

The advantages of posterior through-and-through drainage of the abdomen are well shown by Park in a case where there was a gunshot wound clear through the stomach with extravasation of contents. Where drainage is to be used at all, the through-and-through variety is surely the best.

Since there has been so much written lately upon the surgical treatment of gastric ulcer, it is of interest to note the results which internal treatment have been able to bring about. Schulz finds that there is a very decided mortality reported in the literature; that is for 291 cases 9.6 per cent. This furnishes us with an additional argument to those usually advanced by the surgeons for early operation in all cases which are not very promptly relieved by internal medication.

The Vicious Circle has received its customary share of attention, and perhaps the best suggestion of the year for combating the same is one by Mattoli, who believes that the return flow of bile and pancreatic fluid have very little harmful effect upon the stomach. He proposes to narrow the afferent loop after the union has been made by inserting a few peritoneal stitches which create a longitudinal flooding of the same. After this has been done he advises an enterostomy.

Volvulus, as is now generally admitted, is found only in those individuals who have an unusually long mesentery in some part of the intestinal tract. This has been further confirmed by various writers during the past twelve months, no matter which part of the bowel they have found affected. In this connection Wandel states that he found a very long ileo-cecal attachment in 800 post-mortems. Reasoning from this anatomical fact, one would then naturally expect that about one in one hundred individuals might be the victim of volvulus at this point. The diagnosis of this affection has recently received considerable

attention at the hands of Faltin. He gives as the main point in differential diagnosis between volvulus of the cecum and volvulus of the sigmoid flexure that in the latter affection only a very small quantity of fluid can be retained, whereas in the former a klysma of much more than a quart can be introduced and held.

America furnishes the largest and most exhaustive report on stomach surgery for the past twelve months, W. J. Mayo having reported 303 operations. He gives as his opinion, after such an extended experience, that the fundus of the stomach alone should be left behind in partial resection of the organ. Twenty-two out of twenty-seven cases, which were operated upon by him in this manner for cancer, recovered; and it is interesting to note that his mortality in gastro-enterostomy was still somewhat higher, evidently due to the fact that he gave all of his most promising cases the benefit of the doubt and performed a radical operation, selecting for palliative treatment only those which were already far gone.

A tribute is paid to American surgery by the clinic at Tuebingen, when Trendelenburg admits in his exhaustive article that the best method of performing a gastrostomy has been determined, as a result of their experience, to be that with the Murphy button.

One of the most interesting cases reported recently is that of Hollmann, in which a gangrenous intussusceptum was passed by the patient four months after the clinical recovery from a well-pronounced attack of ileus. An examination of the slough showed that it had consisted of an invagination of the entire ileocecal region. A similar case was reported by Schridde recently. His patient had a similar experience seventeen days after the beginning of the attack. Four months later he died of pneumonia, and at the autopsy there was found a circular scar in the ileum a short distance from its lower end without any stenosis, the reunion of the gut having been as perfectly made as could have been possible in the hands of the best surgeon.

An apparently useful innovation in the performance of gastrostomy comes from Guillot. He proposes to unite the two outer coats of the stomach to the abdominal wall and then draw up the mucous membrane in the form of a little pouch which is twisted for 180 degrees upon its axis, then cut open and sewn to the edges of the skin wound. By this simple procedure it is expected that spontaneous closure will be effected and leakage of stomach contents prevented or reduced to a minimum.

Lindner advances a most startling and radical idea for the treatment of that form of intestinal neurosis which brings about a paresis of the colon. He suggests that the lower ileum be divided and the proximal end be transplanted into the sigmoid flexure. In this way he believes that the function of the gut can be perfectly restored in all cases. This would, however, seem to the reviewer to be a little too severe a form of treatment, when the mildness of the symptoms are taken into consideration.

The experience of Mayo, who recounts the fact that one gut suture gave way on the seventh day and another on the ninth day after operation, proves to us, as the author remarks, that Chlumsky's results gained from animal experimentation cannot be directly applied to the human subject, in which the healing process generally takes longer than the German author supposes.

The treatment of ulcerative colitis by colostomy and irrigation receives warm endorsement at the hands of no less a distinguished authority than Boas.

who reports a case of five years' standing. The recovery was slow; but within a year after the performance of the operation the patient was perfectly well in every particular, the opening having been artificially closed.

In recent proposals to invaginate the vermiform appendix for disease of the same, surgical writers have evidently ignored the fact that this procedure has been a prolific cause of disease. Reference is made in substantiation of this statement to an article by Ackermann, in which are collected the histories of eleven cases from the literature, which go to show that the inverted appendix formed the head of the column in ileo-cecal intussusception. In these cases the process was a spontaneous or idiopathic one; but of course there is no reason why an artificial invagination of the appendix might not be followed by the same disastrous results.

Too much stress cannot be laid upon the now well-established principle of making resections of the colon at two or more sittings. Goeschel reports good work in this line, and substantiates the earlier statement of Mikulicz, that the mortality has been reduced by this procedure from 40 per cent. to something like 10 per cent. Especially is this valuable in those cases which are operated while suffering from acute obstruction.

The surgery of the gall bladder and bile passages has received its customary share of attention during the last year. One of the American articles, which has been most extensively abstracted in the German language, is that by Woods Hutchinson on the uselessness of the gall bladder. He says that this pouch is a relic from an earlier period of our development, and represents one of the primary diverticula which has as yet not entirely disappeared. He draws the well-known comparison between this sack and the vermiform appendix, especially with regard to the very affections common to the two. It is his opinion that no physiological effect follows the removal of the gall bladder and the conversion of the bile flow from an interrupted to a continuous stream. Careful investigations have shown that the gall bladder is, as far as size is concerned, a most imperfect reservoir, it being able to contain at one time not more than one-twentieth to one-thirtieth of the amount of bile which is secreted in twenty-four hours; that is, it holds not more than the quantity which the liver is capable of furnishing in thirty-five minutes. Hence it cannot be urged as a reason for leaving the little sack in its place that it collects all of the bile which is secreted between meals and then pours it out while the food is passing over the outlet of the common duct. Surgeons are coming more and more to the idea that the gall bladder should be removed wherever there is no contraindication present; that is, where it is to be operated upon at all. Of the great surgeons who have held the contrary opinion, Professor Czerny may be mentioned as the most notable exponent, but now he, too, agrees, and in view of recent experiences, that he would have done far better in certain cases, which terminated fatally, had he removed the gall bladder rather than been satisfied with what he then regarded as a conservative operation.

Cholecystenterostomy has always carried with it the danger of serious results in consequence of infectious material being carried from the intestine to the gall bladder. This danger is, however, considerably diminished by a procedure which originated with Krause, who has for some time been in the habit of creating an anastomosis between the two limbs of the loop of bowel used in the procedure. Of course, the rationale of the procedure is that the intestinal

contents are side-tracked, so to speak, and in large measure pass through the new opening instead of following the course of the entire loop, and thus constantly bringing infectious material to the new entrance of the gall bladder.

Resection of the liver was for a long time regarded as one of the most formidable and doubtful of all the surgical procedures. But now, as Anschuetz writes, Ponfick has proven, for the lower animals at least, that three-fourths of the organ may be removed without the life of the animal being absolutely endangered thereby. Formerly we regarded hemorrhage as a very grave danger in this connection, but now modern investigations have shown that the vessels of the liver present about the same characteristics as do those of most other portions of the body; hence they are amenable to the same methods of treatment, and we find it no longer necessary to resort to the many unsurgical procedures which have been employed with varying results in this class of surgery. The author proposes, in making a liver resection, that the tissue be transfixed in several places and tied off *en masse* with heavy ligatures, thus embracing all of the vessels likely to bleed, after which the desired portion can be removed without especial concern.

Enderlen has recently published work which was done at Marburg to ascertain whether or not it is possible by transplantation to cover defects in the wall of the gall bladder. He gives a negative answer to the question of the possibility of anything being accomplished in this manner unless it happens that the omentum completely covers the field of operation. In all such experiments the flap became gangrenous; consequently he advises that rather than attempt in this way to close a defect of the gall bladder the viscus should be removed. In a case reported by von Lieblein there was an extreme mobility of the gall bladder, due to the fact that it was connected with a flooding lobe. But most interesting of all, this gall bladder was the site of extensive stone formation, and presented a most unusual picture through the very thin abdominal wall, proving once more the well-known effect of stagnation in conjunction with infection as the leading etiologic factors in these cases.

The subject of hernia in general seems year by year to come nearer to its solution. Of all the varieties, umbilical hernia had always furnished the surgeon more work and less satisfaction than any of the other forms until Mayo introduced the vertical over-lapping operation. In his report of twenty-five such operations, published last July, Mayo states that he has not had a recurrence, something which may be regarded as distinctly encouraging, in view of the results which have been attained by the use of the various other methods. The procedure is certainly not very difficult, as the reviewer can attest, and if others are only nearly as successful as Dr. Mayo has been in its use, then there is no reason why the results in umbilical hernia shall not soon approach those in the inguinal variety. What seems to be an excellent suggestion in treating these individuals, who are notoriously fat, as a rule, comes from Pauchet, namely, to place the patients in bed and allow them to be almost starved for a number of days before the operation. In one case the French surgeon saw a loss of forty pounds as a result of dieting for eighty-five days, during which time he gave his patient nothing but lemonade, salad and apples. In this way the abdominal wall becomes greatly thinned, and in addition the contents of the abdomen shrink considerably.

One of the most unusual and startling forms of hernia consists in prolapse

of the intestines through a tear low down in the bowels. Moszkowicz reports a case in which the mesentery of the small intestine and that of the sigmoid flexure was so long as to allow portions of these viscera to escape through a tear two and one-half inches in length. Although a laparotomy was made, together with resection of the small intestine, the patient succumbed.

In discussing hernia one is prone to forget that there are other varieties beside the various ones which affect the abdominal contents. An interesting case is reported by Cahier, in which there was a protrusion as large as a quarter of an orange of the muscular substance of the anterior surface of the thigh, after an accidental stab wound. This could not be replaced, so it was resected and the edges of the fascia reunited with sutures. The author goes deeply into the diagnosis between the true and false muscle hernia, stating that the main point of difference is that in the false variety stretching of the affected muscle apparently relieves the deformity, which cannot be said for the true variety.

One of the most extensive contributions of the year to the surgery of the respiratory appendix is from Schwartz, the well-known Parisian surgeon. He gives it as his absolute opinion that there is no use in trying to reach the bronchi except through the posterior mediastinum. This is best done by making a lateral flap which includes the fifth and eighth ribs. He is careful to state, however, that this severe procedure is indicated for the removal of foreign bodies only after every other means has been tried.

In order to determine the specific action upon the lungs of the staphylococcus, Silfvast infected animals by injection and by the inhalation of bouillon cultures. Then in studying the effect exerted upon the lungs of different animals, he noted that it was vastly more pronounced where certain of them inhaled extremely cold air or chemicals, which tended to lower the tissue vitality. It is worthy of note that under ordinary circumstances a large number of the germs were destroyed within the lungs, this being principally due to phagocytic action on the part of the alveolar epithelium as well as white blood cells.

The value of pleural adhesions in lung surgery has, as a matter of course, led to oft-repeated and extended discussion of the best means of producing the same artificially. Kerewski and Meyer give as their opinion that simple suture, as well as irritating injections, are both inefficient when it comes to producing adhesions the strength of which can really be depended upon. Hence they advise that a number of interrupted sutures be introduced into the intercostal spaces, the material used to be silk soaked in turpentine. At the same time it is well to tie around the individual ribs sutures of the same sort which pierce the lung tissue, and in this way the firmest possible adhesions can be produced within about three days.

The subject of lung surgery in general has made decided advances during the recent past. It is now generally conceded that we should treat abscesses, gangrene, etc., of these viscera in exactly the same way as we would the same lesions located elsewhere. The pathology and prognosis in the various visceral lesions are undoubtedly similar, no matter where these lesions are located, hence the treatments must in a measure be similar, even though we have to neglect the individual differences which exist in the various parietes.

Brain surgery is still sufficiently dark and difficult to make every unusual case worthy of being reported. Krogus recounts the history of a patient who presented all the symptoms of a tumor located in the motor area, and at the opera-

tion a mass was found and removed, the diagnosis having supposedly been entirely correct. But what was the surprise of the operator on examining the mass more closely to observe that it was nothing more nor less than an abscess so thickly encapsulated that it had deceived experienced observers and been taken not only clinically but upon direct inspection for a new growth.

An interesting chapter has just been added to the surgery of the central nervous system by Henschen, who tells in a recent article of a case which presented all the symptoms of a tumor of the spinal cord, and in which a gradual cessation of these symptoms led to the open diagnosis of the spontaneous disappearance of such growths. The author mentions the fact that the vascularity and other physical conditions obtaining in this locality really make it possible that such a disappearance might take place, and the theme of his article is the question of the probability of such an occurrence.

Cerebral hernia is fortunately uncommon; still it does occur with sufficient frequency to make it always a matter of interest to know just what we are going to do to remedy the defect in the skull which makes it possible. Hence an article by von Hacker is of interest, in which he describes an original process which consists in the transplantation of a pedunculated periosteal flap which is sewn into the defect inverted; that is, with the bone producing surface directed outward. The author admits that his experience is still too young with this method to be able to say what the effect on secondary bone production will be.

Among the various phases of head injuries the one which has always caused us the most uneasiness and been shrouded in the greatest uncertainty is fracture at the base of the skull. New light is shed upon the subject by Graf, who recently reviewed the work in Koenig's clinic from 1896 to 1902. The rather imposing number of ninety cases forms the basis for his work. He says that the most constant nerve symptom was paralysis of the facial, which occurred twenty-four times. This is produced by the pressure of a blood clot, and as a rule the function returns after the clot has been absorbed. Interesting eye symptoms were also noticed more commonly than seems to have been the rule up to date. Protrusion of the eyeball was not uncommon, and where the hemorrhage into the orbit was not so extensive as to produce this phenomenon, still extravasation beneath the eyelids was seen in a number of cases. It is interesting to note that of thirty-nine patients whose ears were carefully examined long after the injury, only twelve showed a normal condition. The most frequent constant symptom of all was bleeding from the ear, which occurred in sixty of the ninety cases. Stenger has also written lately concerning the value of ear examinations in fractures of the skull. His conclusions, like those of the foregoing author, also serve to impress upon us the value of this procedure, which all must admit has scarcely received the attention due it, although every well-informed surgeon understands that he has to depend to a greater or less extent upon the ear for a positive diagnosis. The escape of cerebral spinal fluid from the ear is regarded by Stenger as absolutely characteristic of fracture at the base, whereas he does not lay great value upon the mere escape of blood alone. However, hemorrhage from the external ear along with tearing of the ear drum is of considerably more value, although this last mentioned lesion is not of great value when taken alone. The psychical disturbances which occur after fracture of the skull have received more than passing treatment at the hands of Viedenz. He makes the interesting statement that 202 out of 1542 insane people under his care, that is 13.1 per

cent., blamed a head injury as the cause of their disease. However, it must be said in this connection that only 2.2 per cent. were entirely free from other predisposing affections, such as alcoholism, etc.

The surgery of the face, like the plastic surgery in other external regions of the body, from the mere fact that it is of much earlier origin than most of the other subjects treated in this review, has received less attention from surgical writers during the past year than the others. The difficult problem of treating ankylosis of the maxillary joint has received very intelligent treatment at the hands of Kusnetzki, who resected a portion of the ascending ramus on both sides and then implanted a flap of muscle between the freshened ends. He did this in two cases, and in both was gratified by seeing his patients at the expiration of months after the operation still able to separate the teeth for a distance of about an inch. This method of treating these difficult cases is surely more simple than several of the others which have been suggested, and has accomplished as much, to say the least.

Von Brune has just made a contribution to the subject of cancer about the lower portion of the face which can but be regarded as a distinct advance in the surgery of this portion of the body. Surgeons have long recognized the necessity of removing the lymphatic nodes in the cervical triangles; but many have been in the habit of protecting the sub-maxillary salivary glands, for the simple reason that not one expected regionary metastases to lie in them. However, invasion of them was occasionally noted in spite of this reasoning, and this was inexplicable and unexplained until von Brune found that very small lymphatic nodes lie well within the substance of these salivary glands; hence his most rational suggestion that these structures be entirely removed at the time the cervical triangles are cleaned out. A rare affection of the face, and one to which we do not see reference commonly made, has been recently written of by von Brune. This is rhinophyma, of which he has seen eleven cases. The affection consists in an overgrowth of the subcutaneous tissues about the lower portion of the nose. This was usually manifest in the form of single flaps or lobules, some of them being so long as to hang down over the mouth, and in some instances even over the chin, so that the process of eating was mechanically interfered with. Excision of these supererogations led to perfect results in eight cases; and the minute examination showed the diseased tissue to constitute multiple fibro-cyst-adenomata.

Our rather limited knowledge of the physiology of the thyroid gland makes all of the surgical problems which involve it of more than passing interest to us. One of the most interesting of these physiological problems which has come up lately in connection with the gland is the influence exerted by it, or, rather, by its activity upon the healing of fractures. After a series of animal experiments, as well as a study of the literature of the subject, Bayon has come to the very interesting conclusion that the formation of callous is decidedly favored by feeding the patient with thyroid extract or gland substance. In animals it is possible to greatly retard the healing of fractures by removal of the thyroid gland, and again to bring about a proper union after such an operation by feeding the animals with thyroid gland substance or properly prepared extract. Burghart and Blumenthal have built up a new line of treatment for exophthalmic goitre, starting from the idea that this malady and myxedema are directly opposed pathologic processes. They give their patients milk and blood

taken from goats and sheep which have been subjected to the operation of thyroidectomy. There is, however, a certain limit to the usefulness of the treatment; that is, where there are not already severe cardiac and other organic lesions present. In Italy further experiments along the line of the thyroid influence upon fracture healing have been made by Perrolini. This author explains conclusions similar to those above mentioned by the fact that there is a general improvement in the nutrition of all the tissues in consequence of thyroid feeding rather than in specific action upon cartilage and bone.

The operative technique in this portion of the neck has received its most extensive treatment during the past year at the hands of Orlow, who stated that of the fifteen or sixteen different methods and forms of incision proposed, all but his own seem to fail of satisfying each of the various proposals. In general, he is against preliminary ligation of the carotids, but is sufficiently broad to admit the operation may have definite indications in certain selected cases.

There has been work done during the last year on the vascular apparatus which seems little short of sensational, although, unfortunately, it is not to be recorded that a great deal of it was wholly successful. Gallois and Pinatelli made an anastomosis between the femoral artery and vein, in the hope of thus preventing gangrene of the leg, but without success. Halberstaedter saw gangrene of the leg follow the ligation of the femoral vein, and after investigating the subject thoroughly comes to the conclusion that collateral vein supply is only possible where the arterial pressure is well maintained and where the vein valves permit of a backward flow for a certain distance. He concludes that this accident (gangrene) is likely to occur only in a few individuals, this depending upon the original structure of the veins. The femoral vein was sutured with good result three times by Schonwerth, and this in spite of the fact that supuration occurred.

A series of interesting experiments by Baumgarten have shown that the blood in a portion of a vessel which is double ligated remains fluid for months, clotting having occurred only in those cases where there was so much injury to the coats by the ligation that some of the endothelium was lost. A number of animal experiments at the hands of Exner have proven that thrombosis of a vein always occurs after a vein and artery have been united. Jensen states as a result of numerous experiments and wide statistical study that no constant good results have been obtained by any method of circular suture of arteries, and he further informs us that the prognosis in veins is no better than in arteries.

Injuries, accidental or intended, form so conspicuous a part of our surgical practice that a few references to the newer work in this line are certainly not out of place. Weidenfeld has determined by exact measurements that there is an exact relation between the size of a burnt area on the exterior of the body and the death of the individual where fatal termination occurs. He has further found that the cutting away of the burned skin can in many instances prolong the individual's life, or, indeed, render the condition much more tolerable.

Meyer has made a study of one of the most interesting results of fractures, namely, the formation of traumatic aneurysms. He finds only sixty cases reported in the whole of medical literature, and adds one aneurysm of an intercostal artery following fracture of a rib. Another interesting though unfortunately fatal accident prone to follow fractures is that of embolism of the pulmonary arteries. Thirty-seven such cases were found in the literature by Smir-

now, who reports one new case in addition. Here the accident occurred three weeks after a fracture of the leg, while manipulation was being undertaken with a view of correcting the position of the bones. The moral here pointed is self-evident, namely, there is no certain means of knowing just when large vessels in the vicinity of the fracture are thrombosed, consequently we must be extremely careful about risking the loosening of such a thrombus, lest pulmonary embolism ensue with a fatal result.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

In common with its predecessors, the year 1903 has been characterized by a flood of therapeutic communications. Of these, however, but few are at once new, important and of such a character that they can reasonably be expected to endure the test of time and criticism. In the realm of serum-therapeutics the most significant advance is probably the confirmation and elaboration of the serum treatment of hay fever. As a result of several years of experimentation, Prof. Dunbar, of Hamburg, has shown that the etiologic factor in hay fever is the pollen of certain grasses, such as rye, barley, wheat, and especially maize. This pollen when applied to the nasal mucous membrane or the conjunctiva of people subject to attacks of hay fever, produces violent and perfectly characteristic paroxysms even in winter, when hay fever does not otherwise occur. Individuals not subject to hay fever are, however, entirely insensitive: the pollen produces upon them no effect whatever. By extracting the pollen with ether and precipitating the dissolved substances with alcohol, he obtained a soluble toxin that produced all the disturbances caused by the pollen grains themselves, thus showing that the latter did not act as a physical irritant. The pollen of roses, linden flowers and other plants which have been considered as giving rise to hay fever, was not only found itself unirritating but produced no toxin. When injected hypodermically into a sensitive individual, the pollen toxin produced not only all the symptoms of a severe attack of hay fever, but also marked vertigo and a bronchial irritation often amounting to violent asthma. At the site of injection there was usually great swelling and irritation. This artificial hay fever often lasted four or five days, as the result of a single injection of toxin. If, after the last trace of coryza and lachrymation had disappeared, pollen toxin was applied to the patient's nasal mucous membrane, little or no reaction occurred, showing that a certain amount of immunity had been acquired. This led Prof. Dunbar to attempt the production of a true hay-fever antitoxin. The pollen toxin was injected into rabbits, goats and later also into horses in steadily increasing quantities. The blood serum of these animals was found to contain a true antitoxin. When added to a corresponding amount of active pollen toxin, the mixture could be applied to the nostrils of sensitive individuals without producing any ill effects. Even after a violent attack had been produced by local applications of the toxin, all the symptoms could usually be promptly quieted by a subsequent application of the antitoxin. The most

striking results were obtained by the hypodermic administration of the antitoxin. After such an injection, no subsequent application of pollen toxin to the nose or conjunctiva of a sensitive individual produced any irritation; he behaved toward the toxin just like an individual not subject to hay fever. Unfortunately, the hypodermic administration of the antitoxin is as yet accompanied by very disagreeable drawbacks. "Although," admits Dunbar himself, "when so applied it produces no symptoms whatever in normal individuals, it yields when hypodermically used in hay-fever patients irritative phenomena which may have rather disagreeable effects. If, for instance, the antitoxin is injected into the forearm, a swelling arises, starting from the spot where the injection was made, which may extend over the whole forearm, accompanied by a sensation of heat, redness of the skin and disagreeable itching. These phenomena may last as long as six days." After a number of injections a sort of immunity against this local irritation seems to establish itself; the last injections are not as troublesome as the first. Moreover, not all hay-fever patients are equally subject to this distressing complication. It is not unlikely that it may be possible later to free the antitoxin from this irritating constituent. As the antitoxin grows stronger, the local irritation produced does not increase, but rather diminishes. Accordingly, there is good reason to suppose that it is not inherent in the antitoxin, but is an adventitious constituent and may eventually be removed without interfering with the activity of the serum.

For the present, however, the hypodermic use of the serum is not advisable. Applied locally during a paroxysm it often affords striking relief. The serum manufactured according to Prof. Dunbar's directions, has been put on the market under the name of *pollantin*. It is a clear, yellowish liquid. As furnished by the manufacturers, the package consists of a wooden box containing two glass vials; one tightly corked contains the serum, the other closed by a pipette-stopper is empty. The latter is furnished in order to avoid any unnecessary manipulation of the easily contaminated serum. When it is to be used a little of the serum is poured into the empty vial and thence drawn up into the pipette. Standing before a mirror a drop is allowed to fall into each eye, and then, throwing the head backward and inserting the pipette half an inch into the nostril, four or five drops are allowed to spread over the nasal mucous membrane on each side. According to Prof. Dunbar, a temporary but striking relief of all the symptoms results, the patients being perfectly comfortable for some five hours.

Sir Felix Semon, of London, and Dr. P. McBride, of Edinburgh, have repeated and to a certain extent corroborated these experiments. Their cases, combined, are eighteen in number, of which nine were hay-fever subjects and nine control patients suffering from other ailments. The patients were seen as often as necessary, and soon after the onset of a paroxysm were carefully treated, locally, with the serum. Those patients whose coryza or asthma was not due to hay fever were not benefited by the serum, while all true hay-fever patients were relieved more or less, some being entirely free from discomfort for seven hours or more, while others were only able to report a diminution in the severity of the attack. Sir Felix Semon, too, found that the hypodermic use of the serum was accompanied by so much local irritation as to make its use inadvisable. Emil Mayer, of New York, has also reported his observations with the serum. Patients suffering from the so-called "spring hay fever," prevalent in May, June and July, were promptly relieved by the serum. Indeed, he found that if his

patients applied the antitoxin to the nostril on arising and again on leaving the house, they often remained free from the attack all day. The autumnal cases, suffering in August and September, were not benefited by the serum. It may be that these attacks are caused by a different pollen. It should not be difficult to identify this and to make an antitoxin to combat it. As yet no work along this line has been published. Mac'oy, of Philadelphia, however, reports fifteen cases seen in July, August and September of this year, in all of which the paroxysm was cut short by Dunbar's antitoxin: "the effect was so promptly manifested, the relief so complete and the result so permanent for this season, that it appears really marvelous!" It is to be hoped that further observation will verify these results.

The question as to the relative value of the various anti-streptococcus sera has been much discussed during the past year but still remains undecided. Marmorek's serum, from the use of which very favorable results have been reported from all over the world, not only in erysipelas, angina, rheumatism or the like, but also in all sorts of mixed infections, has in the hands of other clinicians failed of any results whatever. Theoretically this serum is certainly open to criticism. A streptococcus culture is made continually more virulent for animals by passage through successive rabbits, and the final culture used for the immunization of horses. Now, Koch and Petruschky have shown that streptococci that have been made excessively pathogenic for rabbits are almost harmless for human beings, whereas streptococci from a recent case of erysipelas, while much less pathogenic for animals, are extremely so for human beings. Accordingly from the point of view of the latter, Marmorek's serum is derived from not a very virulent but rather from a feeble streptococcus culture. The two other streptococcus antitoxins of greatest vogue just now are those of Aronson and of Moser. Both of these observers have had very good results with their own antitoxins in their own clinics; elsewhere the good results have not been so striking. Baginsky, of Berlin, in particular, has not had good results with either serum in scarlatina, and advises against its use in this disease. In pure streptococcus infections, such as erysipelas, septicemia, etc., the serum is probably of some use. Just which serum is the best and just how useful it is, still remains to be decided. A better serum than any so far produced will probably appear before long.

The value of Adamkiewicz's "*cancroin*" treatment for inoperable cancer is no nearer solution than it was last year, when the matter was discussed in detail in these columns. Adamkiewicz has recently reported fifteen cases of inoperable cancer so treated, all of which were benefited, and three of which were cured. One of the former was a case of rectal cancer belonging to Engelberg. The latter protests against Adamkiewicz's statement, declaring that the patient was long since dead of general metastases and had not been benefited by the treatment. This makes one suspect the accuracy of Adamkiewicz's other reports. Hagentorn reports a case in which there was great temporary benefit from the use of cancroin, obstinate cancerous ulcers healing nicely during the treatment and breaking open again when the injections were discontinued. Ultimately this case, too, succumbed.

Some very interesting work has been done in regard to the rational treatment of Graves' disease. The theory on which these attempts are based is in brief that the function of the thyroid is to elaborate an internal secretion, in

itself toxic, whose function it is to neutralize another poison made elsewhere in the body. If, owing to inactivity of the thyroid, the latter poison is in excess, we have the condition known as myxedema; if, owing to absence of this poison, or to excessive activity of the thyroid gland the thyroid secretion is present in excess, we have Graves' disease. Efforts have accordingly been made to treat the disease, not by modifying the action of the thyroid gland, but by providing more of this unknown substance for the gland to neutralize. Ballet and Enriquez injected the blood serum of dogs whose thyroids had been removed some time before, and whose blood, therefore, would be rich in the substance which it is the function of the thyroid to neutralize. Burghardt injected into his patients suffering from Graves' disease a saline extract of the blood of myxedematous individuals. Moebius advocates the hypodermic use of a serum (made by Merek) obtained from thyroidectomized sheep, while Lang advises drinking the milk of thyroidectomized goats. A powder made of this milk, dried, has recently been put upon the market under the name of *rodagen*. A number of cases have been reported treated by these various methods, usually with moderate benefit. Thus Schultes reports a case of Graves' disease with a violent psychosis. It was treated by injections of Moebius' serum. The psychosis disappeared at once; in a few weeks the struma had shrunk 2 cm. in circumference and the pulse had fallen from 140 to 80-90. Burghardt reports fifteen cases treated, some with Moebius' serum, some with *rodagen*. The results on the whole were satisfactory. In every case the insomnia, emaciation, tremor and sweating were relieved. In two cases the exophthalmus vanished. The size of the gland was usually unaffected, though in all cases the gland grew softer. Considering the extreme variability of this disease and its tendency to spontaneous temporary improvement, these results cannot be said to speak unmistakably for the specificity of this treatment.

A large number of new synthetic drugs have been put upon the market during the past twelve months. Some of them will doubtless prove useful and so survive; the bulk will probably pass into a quick oblivion. It is as yet too early to express any opinion concerning these newest arrivals in the therapeutic field. Of the drugs that have appeared within the last few years several are proving of great value and are eliciting general endorsement. Of these, one of the most striking is *theocin*, which has been referred to a number of times in these columns, and which unquestionably is our most powerful and most certain diuretic. It is a white crystalline powder, easily soluble in hot water; not so soluble in cold. It is, chemically, isomeric with urotropin, which it closely resembles in its mode of action. While more expensive per ounce than urotropin, the dose is so much smaller (0.5 to 1.0 gram daily) that the actual expense to the patient is considerably less. Its chief merit lies in its rapid and powerful action; a single dose will usually produce a profuse polyuria and often causes an edema to disappear over night. It will still produce a diuresis when digitalis, diuretin, caffein and the like fail, whether on account of having been given too long or of renal insufficiency. On the other hand, its diuretic effect does not last quite as long as that of diuretin, and it does not act as a cardiac tonic like caffein and digitalis. Its most striking effect is seen in cardiac dropsy in combination with a heart tonic. In the various forms of chronic nephritis it is less efficient; in ascites, due to hepatic cirrhosis, its results are still less marked, and in the dropsy of acute nephritis, or of tubercular peritonitis, it is practically

inert. It is best given in a cup of hot tea or other hot fluid. When given as a powder or in a capsule it acts as a gastric irritant and often causes considerable trouble. It should also never be given on an empty stomach. When there is gastric intolerance of it, it may be given per rectum; but thereby its efficiency is much reduced, and in such cases it is better to give some other diuretic. Occasionally it has been known to act as a nervous irritant, producing insomnia, paresthesias and the like. A number of observers have even seen epileptoid convulsions following the administration of the ordinary dose of theocin in patients without any cerebral trouble. No permanent ill effects have been recorded even in these individuals, but the complication is, to say the least, unpleasant. It may be avoided by combining with the theocin some depresso-motor. Thus Stross advises the addition of two to three per cent of extract of belladonna to each dose of the drug. Schlesinger advocates the following formula:

R	Infus. adonid. vernalis	5.0 ad 180.0
	Theocini	0.6 (up to 1.0)
	Syr. simpl	20.0
M.	Sig.—The entire quantity to be taken in the course of the day.	

In a recent number of this journal an account was given of the strikingly good results obtained in cases of angina pectoris by the protracted use of urotropin. Pineles has shown that theocin has a similar action. It is best given as follows: for three successive days the patient takes 0.2 gram after breakfast; for several days thereafter no theocin is taken, until stenocardiac symptoms again show themselves, whereupon the drug is again given for three days. Taken in this way the drug keeps patients comfortable who had previously been intractable and constant sufferers. It has two advantages over urotropin: the small dose necessary makes it cheaper, and the same reason makes it less of a gastric irritant. Like urotropin, its action in stenocardia is, of course, only palliative.

The very extraordinary substance called radium promises rich discoveries in medicine as well as in physics. Its powerful action on diseased even more than on healthy tissues has been known for some time. MacIntyre reports three cases of lupus that were subjected to the rays emanating from a particle of radium chloride. Both healed very promptly. One of them had been exposed to the Finsen rays without any benefit. Whether in these cases radium behaved like any other escharotic, affecting the lupus, as a tissue of lessened resistance, more intensely than the healthy skin, or whether it had a true curative action, still remains unsettled. During the coming year we shall probably hear more of the therapeutic value of this substance. In spite of its excessive cost it will be, if of any efficacy, our most economical therapeutic agent, since it is apparently inexhaustible and can be used indefinitely without waste.

From all sides reports continue to pour in of diseases otherwise intractable being cured by means of the x-rays. While a skeptical attitude towards these reports has as yet a certain amount of justification, it cannot be denied that some of the claims of the x-ray enthusiasts are well founded. It seems to be certain that superficial cancers can be materially benefited and sometimes permanently cured by the skillful application of the x-rays. Even more deeply seated tumors have been known to be favorably modified, at least for a time. Sarcoma seems to be much less amenable to this form of treatment than car-

cinoma. In 36 cases of round and spindle-celled sarcoma treated by exposure to the rays, Coley obtained but slight and temporary benefit in most cases, although in a few, apparently permanent cures resulted. Even where the primary tumor disappeared under the action of the x-rays, metastases in most cases eventually appeared elsewhere. His conclusion is that the use in sarcoma of the x-rays is proper only in inoperable and otherwise hopeless cases. The only exception that he makes to this rule is in sarcoma of the extremities, where operation means amputation. Here the x-rays may be given a trial, but if not promptly effective, operation should not be delayed. They may also be of use, after operation, to prevent recurrence. The statement of Senn, whose material is certainly not small, is of interest here. He says that he has never seen either carcinoma or sarcoma even benefited by x-ray treatment, to say nothing of a cure. Several cases of Hodgkin's disease have been reported cured by the x-rays, two of them reported last April by Senn. In August last the same observer reported a case of spleno-medullary leukemia successfully treated by this means. The patient was a Jewess of twenty-nine years, with greatly enlarged liver and spleen. The blood count showed 3,500,000 red corpuseles and 64,800 white cells. Many of the latter were myelocytes; there were many eosinophiles, and poikilocytosis was pronounced. The x-rays were applied to the region of the spleen, the lower end of the sternum and the epiphyseal extremities of the long bones. The exposures were made daily for from ten to twenty minutes. Three weeks after the treatment was begun a marked decrease in the size of the spleen was noted, and it is stated (although the figures are not given) that the improvement in the blood kept pace with the diminution in size of the spleen, so that very soon only a few eosinophiles and no myelocytes were found. Two months later, except for a slight anemia, the blood was normal. Unfortunately, the case is so inadequately reported that even the diagnosis of leukemia is not beyond question, and the curability of this disease by means of the x-rays must be left for further observation.

New hypnotics that are at once harmless and efficient are always welcome. There are cases where all attempts at inducing sleep by means of physical therapeutics fail and where we are compelled to have recourse to drugs. Under such circumstances it is of importance to have at our disposal a large number of such medicaments in order that we may not be balked by individual idiosyncrasies, and that where hypnotics must be given continuously for some time we may be enabled to give first one, and then another. Two new hypnotics that are finding much favor are *veronal* and *hedonal*. Both belong to the urethan group, and are similar in their action to the well-known trional. Veronal produces a sleep less profound than most hypnotics, the condition resembling closely that of a natural slumber. It fails entirely where there is any organic cause, such as pain or dyspnea, tending to keep the patient awake. For ordinary nervous sleeplessness it is surpassed only by physical methods, such as the prolonged warm bath, the cold wet pack and the like, and is invaluable where these fail. The usual dose is 0.5 to 1.0 gram. In delirium tremens, where it is often useful, the dose is 2 to 3 grams. Hedonal is given in somewhat larger doses, 2 grams being the amount advised for men, while women are said to require only 1.5 grams. Its action closely resembles that of veronal, in that it produces a quiet, natural sleep. It is also slightly a cardiac stimulant and decidedly a diuretic, so that it is especially indicated in cardiac disease. It is not cumulative, and is non-toxic in any

reasonable dose. Being very poorly soluble, it is best given in a wafer; no gastric irritation need be feared.

Several years ago the Parisian dermatologist Brocq called attention to the antifurunculous action of brewers' yeast. He gave it internally in a large number of cases of furunculosis, and found that it frequently aborted the attack, rendering the resort to the knife unnecessary. Coutourier some years later met with unfavorable results, due probably to his having a poor quality of yeast. In 1896 Buchner and Heer advocated its use warmly, and since that time its value as a medicament has been generally acknowledged. The drawbacks inherent in brewers' yeast as a medicament are, however, many. Not only is it difficult to obtain yeast of good quality, but it has been found that within twenty-four hours the yeast spoils and becomes inert. It is bulky and its taste is to some people absolutely nauseous. Various attempts have been made to obviate these disadvantages. The fermentative power of the yeast is not inherent in the yeast cell, but is a zymase or ferment that may be extracted in various ways. These yeast extracts, known as *levuritin*, *cererisin*, *acetone-yeast*, etc., differ greatly among themselves, some being active fermentors of grape sugar, others not. Which of them best deserve the confidence of the profession has not yet been established beyond question: probably none of them are quite as efficient as the original brewers' yeast. The chief indications of yeast, at present, are:

1. Diabetes Mellitus.—Here it not only acts as a food and assists digestion, but by fermenting away the sugar in the intestinal tract, before it can be absorbed, enables us to give the patient considerable quantities of sugar and starch in his food with the certainty that but little of it will be taken up into the system.

2. Furunculosis.

3. Chronic eczema and dermatoses in general.

Of new proprietary iron tonics there is no end. Jaworski maintains that the natural water from chalybeate springs surpasses in efficiency all of our vaunted organic preparations. Unfortunately, this water does not keep well and so cannot be exported. After a few days a red sediment precipitates in the bottles and the value of the water is destroyed. He believes however that the natural chalybeate water can be closely imitated by the following formula:

R	Ferri sulfurici recenter parati	2.5	5.0
	Solve in aq. dest. fervid	10.0	or 20.0
Deinde adde:			

	Syrupi simplicis	100.0	100.0
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M. Sig.—Put one teaspoonful into a glass, fill up with Vichy and drink at once.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Among the few references that can be made to the more important work presented during the last year in the wide field of biology, pathology and bacteriology, must stand in the foreground the advance gained in our knowledge of the intimate nature of the mysterious phenomena of immunity and many other processes that through Ehrlich's work have come to play such a prominent role in our biologic and pathologic conceptions. A great mass of single investigations have again and again shown that in the most diversified features of animal and also vegetable life the principles established by this author obtain; they have helped to accumulate material enough to form a basis for the understanding of the nature of the reactions that in all of these processes must be the same. While certain observations not readily agreeing with the law of constant proportions were by ingenious methods seemingly adapted to it, the investigations of several workers have established that they give the key to the true nature of the combination of toxin with antitoxin, of receptor with amboceptor. We now know through Madsen, Arrhenius, Gruber and others that this combination is not one of constant proportions, such as between simple chemical substances, but that it is dependent upon the relative concentration of the uniting substances. The physico-chemical laws for the solutions of dissociable substances are those of the immunity-reactions, a fact that at least has dispelled any possible objection against the chemical character of the latter. As to their theoretic conception, this revolution will do away with the apparent simplicity of the reactions concerned, but it will do away, too, with the obscure and superficial comparison of their nature to merely physical phenomena, like that of absorption or adsorption; Bordet himself, the promulgator of this theory, has recanted his former assertions in this direction. The consequences that this better knowledge will have on the development of the study of receptor-antibody reactions can hardly be foretold, but the fact that it can be positively demonstrated that these substances exacting their qualities in incredibly minute proportions (sometimes 1 to 1,000,000), and nevertheless following distinctly the laws for other chemical combinations, will in the future certainly clear up the mysterious character of ferments and show their analogous mode of action. Results in this direction have already been obtained, as demonstrated in the studies published by Delezenne and Pawlow, showing the composite nature of the proteolytic action of trypsin. A very beautiful confirmation of this exposition was also only lately given by Cohnheim's investigation on the pancreatic ferment that presides over the destruction of sugar in the animal organism. It was long known that muscle-fibres have a decided power of glycolysis, but in spite of all attempts no observer had succeeded to demonstrate an enzym exerting this action. At the same time it was known that the removal of the pancreatic secretion from the organism invariably led to the loss of the ability to destroy sugar; the demonstration of an enzym for this quality so far was not possible. Cohnheim found that each, the muscle and the pancreas, are the producers of substances that only in combina-

tion with each other lead to glycolysis, showing that a relation obtains here, as we have learned that it exists also between the proteolytic proenzym of the pancreas and the enterokinase of the intestine. Further investigations will show that this relation is the same as that between the amboceptor and complement in the immunity-bodies; for the trypsin this demonstration has, by this time, been made.

The positive demonstration of such processes occurring in the same individual, processes of essential importance for the existence of the individual, make it not only probable, but certain that they will be found also governing the other functions of cellular life. Autolysis has been studied under different pathologic and normal conditions, the most instructive one being that of the resolution of the exudate in croupous pneumonia that is effected by a proteolytic ferment excreted for this purpose. The conclusion must be that under normal or pathologic conditions the animal organism everywhere and always produces substances acting as immunity-bodies, and either essential for the sustenance of the normal metabolism or protecting against deleterious influences.

The one question that is not solved yet is the cause of the specificity of all of these reactions, a question that Gruber especially has altogether neglected in his discussion about Ehrlich's views. Our absolute ignorance about the chemical structure of the most important substances of the cellular body is a great obstacle for arriving at definite ideas. But let us remember that we have to deal here with a much greater complexity than, for instance, in carbohydrates, which in a similar way are acted upon by enzymes, a fact that has been shown positively by Emil Fischer: a solution of the riddle is to be hoped for by the progressing study of the chemical constitution of the protein-bodies: great strides have been made in this direction lately by the work of Fischer, Kossel and others.

Welch has given an impetus to a side of this question that was not altogether neglected, but forced to the background by the practical interest of mankind. Since the fight between the micro-organism and the animal body is decided only by the greater resistance of the one or the other, it was natural to inquire what biologic changes the microbiotic aggressor might undergo in this fight. The question has been considered before, but since Welch's publication, several investigations have been published demonstrating that the defensive power of the microbe can be artificially increased in the same varied way as we see it in the animal body. One of the most interesting and instructive instances is that given by Theo. Mueller in regard to typhoid bacilli. Mueller found that when cultivating these bacilli continuously in typhoid-immune-serum they lose their quality of being agglutinated by immune-serum, just as the blood-corpuscles of rabbits lose their quality of being destroyed by the toxic factor of eel-serum, when the animals have been immunized against this toxin. It is a splendid proof for Ehrlich's explanation of this remarkable effect.

There is only one conclusion to be drawn from the modern aspect of immunity-reactions that is of practical importance; it is that a complete neutralization of a toxin by an antitoxin is not possible; in any mixture of the two, free portions of these substances must be present. The amount of the one or the other of them depends only upon their relative concentration, so that the quantity of free toxin can be reduced to a minimum not fatal by a great surplus of antitoxin. In this way the dissociation of the product of union of these two substances can be reduced to such a degree that the remaining portion of toxin falls

below the fatal or symptom-producing quantity. For antitoxin-therapy this means the use of doses of antitoxin as large as possible.

Space does not allow me to enter into a more detailed review of what has been done in this line. We must conclude with the remark that although the original conception of the principles of the immunity theory will have to be greatly modified, its basis is more than ever firmly built, and it is certain that its influence on general biologic and pathologic study is as yet far from its end. It will remodel to a great degree many of our ideas about the life of the cell and of the multicellular organism.

Purely a pathologic one is the consideration of the subject of tuberculosis, about which, more than ever before, the battle is waging. The last year has not had a tendency to lead to a reconciliation of the divergent opinions. Divergent they are on any part of the tuberculosis question. To begin with the way of infection, Behring has reneged the idea of an inhalation tuberculosis in opposition to Koch and Cornet, who believe in the direct reception of the virus into the respiratory tract as the main factor. Behring bases his assertions on experiments and histologic observations on the mucosal lining of the gastro-intestinal tract of young animals and human infants. He maintains that during the earliest time of life the mucosa is in a condition to allow foreign substances, among them bacilli, to penetrate, while its structure in later periods is protective against such an invasion. In other words, he believes that the primary infection occurs always during the first year of life, remaining dormant and becoming active only at any time of the further existence, as soon as the necessary conditions obtain. While there is no doubt that the primary infection in most cases certainly has occurred a long time before the first clinical symptoms are recognized, such a sweeping assertion is surely not justified in view of the general experience on infection during later life. Other points of pathologic character directly contradict Behring.

But this view of the author leads us to the main problem that was brought forward two years ago by Koch in his announcement of the diversity of the bovine and human tubercle bacilli. Behring openly contradicts Koch, proclaiming the identity of these two pathogenic microbes. The material on which his assertion is based is not sufficient to allow of admitting it as corroborative of his theory of the primary infection. Infants are infected, he says, not only by tuberculous material derived from their surroundings, but mainly by the milk they are fed on; and since the cow's milk contains, in seventy-five out of one hundred cases, bovine tubercle bacilli, this is the most prolific source of infection. If both assertions were facts, Behring would be correct. But unfortunately neither the one nor the other is a scientific truth. The very fact that just now hundreds of workers are attempting to definitely solve the problem of the identity of the two bacilli, shows how little this question is settled, and how impossible it is to base far reaching conclusions on the one or the other side. All over the world the last year careful experiments and observations have been made, and it must be said that the greater weight of evidence has fallen into the scale of Koch's opinion, as far as observations are concerned, that in their interpretation comply with the claims of a scientific criticism. One of the most important contributions to the question has been furnished by Kossel, who failed to cause tuberculosis in the great majority of cases by injecting into calves and young cows the cultures of tubercle bacilli obtained from human tuberculosis.

Of thirty-seven different cultures, only four caused general tuberculosis, while in none of the other were any but local lesions produced. The four infectious cultures were obtained from lesions, healed and encapsulated, and playing no part in the cause of death of the individual that furnished them. This series of experiments must be held up against isolated experiences, reported by some observers, that appear contradictory. In most of them certain sources of error are not excluded that may have vitiated the result.

This obtains specially in all of those instances where it seemed that a pulmonary tuberculosis was the consequence of a local lesion obtained in the handling of material of bovine tuberculosis. Ravenel has reported such cases as proofs for the infectiousness for man of bovine bacilli. How, in these cases, the connection between the two factors can be established, where every one of them was liable to develop pulmonary tuberculosis from a latent focus, is not clear, and this is the ground that Koch has excluded all such reports from the consideration *pro et contra*. Very important material has been brought together about this point by the statistics on primary intestinal tuberculosis in children, which with only one or two exceptions show the uniformly exceeding rarity of this condition, which, in the first place, could lead to the suspicion of infection by milk from tuberculous cows. It cannot be foretold what the final answer to this important question will be at the present date; however, it must be clearly stated that the gross evidence is in favor of the harmlessness of bovine bacilli for the human race, which, of course, does not exclude that exceptionally the human organism can be invaded by them.

The better insight into the pathologic peculiarities of pulmonary tuberculosis have led to a beginning of the era where the wholesale efforts to exterminate tuberculosis by supervision, sanatoria, etc., begin to be looked at with a somewhat doubtful glance. That this is possible, we owe to the knowledge gained, that tuberculosis itself is not the fearful thing we deem it, but that only certain conditions make it fearful. Prevention of tuberculosis will not be achieved by treating patients for a few months in sanatoria, but only by putting them under conditions where the infection can be suppressed, and at a time when we have to deal only with tuberculosis, and not with consumption. This is the opinion of Koch and Behring. The means to recognize this time we have given by the tuberculin test, and it is one of the most welcome gifts of the last year, that the number of observers has greatly increased, who unrestrictedly admit the value of this method.

Our future work in regard to tuberculosis will, however, not lie in influencing it when it is there, but to prevent it altogether; and the last year has brought in the publication of Maragliano and Behring material that shows that after a shorter or longer period of waiting we will see this end accomplished. We will have a vaccination against tuberculosis, like we already have it for the bovine form of the disease; for this the proofs published are conclusive and incontrovertible. Means will be found to circumvent the impossibility of directly finding the best form of vaccination by experiments on human beings. This is, at the present time, the only obstacle to a speedy solution of the problem.

Pathology and bacteriology have worked assiduously together to bring about this modern view on conditions that practically are the most important. It is their practical side that led us to give them so much space in this review. This does not mean, however, that in no other way progress was made in the two

branches of biologic science, although only in a few respects this progress may be of general interest.

Of pathologic processes the so-called fatty degeneration has received much attention, the accumulation of fat in cells under pathologic conditions. Since Virchow we have been in the habit of considering fat deposition in cells as an indication of degenerative processes in the protoplasm, leading to the formation of fat from the protoplasmic material. This view is even now maintained by physiologic chemistry on the basis of investigations on the totality of tissues, but not on the single cell. To the histologist fatty degeneration has always appeared more as a deposition of fat than as a formation of it. Ribbert has always been the foremost defender of the conception that the fat found in cells under pathologic conditions has not been formed there, but was brought to the cells by the fluids of the body and deposited, the cells, owing to their diseased condition, not being able to assimilate it. They have still the quality to build up fat from its constituents carried to them, but their ability ends there. This leads to the storing of an amount of fat in a single cell that far exceeds the possible quantity obtainable by the conversion of its whole protoplasm into fat. Ribbert and others have shown that diseased tissue, from which the circulation is cut off, never forms fat, and in an instructive paper in Virchow's *Archiv*, this point is illustrated by the study of kidney-infarcts, where the whole infarct does not contain a trace of fat, while only the peripheral zone of hyperdemia allows to demonstrate the presence of it. That in many organs (kidney for instance) the amount of fat in fatty degeneration does not exceed the amount found in any normal kidney, and that its apparent accumulation in the epithelial cells is only due to a different distribution of the fat of the same organ, has likewise been brought out by Ribbert. Histologically, a fatty degeneration of the protoplasm is not observed, and the appearance of fat in any tissue is always an infiltration or deposition, in some organs (fat-tissue, liver) to a degree physiologic, in others pathologic, due to a disturbance of the life of their cells. A number of other contributions to this subject lead to the same conclusion: a fatty degeneration does not exist.

As to the pathology of tumors, nothing of great importance has been found. An exception form the classes of embryoid tumors (teratomata, dermoids, etc.), that by the classic work of Schlagenhauffer on chorion epitheliomata in testicle-teratomata have been given the conclusive testimony of being formations arising from segregation of cells in the very first stages of the division of the fertilized ovum. His observations have been confirmed by Pick and others. That many of the malignant tumors of homogeneous structure are most likely of the same origin, an opinion already pronounced by Wilms is very probable. As to the origin of carcinoma the search for parasites has gradually tired out; the several cancer laboratories and societies for carcinoma investigation have not brought out a single point worth mentioning. On the other side, control investigations of so-called parasitic organisms in cancer have again, always and uniformly, established the fact that the parasites are products of protoplasmic or nuclear degeneration or products of the secretory organs of the cancer cells. That cancer may arise from normally organized epithelial cells is beautifully demonstrated by Hauser in a number of polypoid growths of the intestine, a contradiction to the theory of Ribbert of the necessary dislocation of epithelial cells.

The histology of inflammation and of inflammatory products has been en-

riched by Maximow, Pappenheim and others by a great amount of detail work, but the discussion of the origin of the different cells found in inflamed tissue has not come to a decision. One point, however, begins to impress itself more and more distinctly, that is the impossibility of retaining the theory of Ehrlich, based on the assumed lack of motility of lymphocytic elements. Wolff, Michaelis and others have directly demonstrated the latter, while years before Baumgarten had insisted of the migration of these cells through the walls of the capillaries. It is generally accepted that the exudative products are not only polynuclear cells and blood corpuscles, but that to them, too, belong the lymphocytes. The great question discussed is what becomes of the latter, while all of the former either return into the circulation or are destroyed *in loco*. Maximow at first asserted that they participated in the formation of connective tissue, later he revoked this opinion. The difficulty lies in the fact that cells of inflammatory tissue are so different from those of mature tissue that we can only by comparison or by attention to certain staining reactions attempt to establish their identity. This, of course, involves the factor of the personal equation of each observer; to which degree this may go is shown by the publications of Pappenheim, who differentiates the blood and tissue-lymphocytes as two classes of cells altogether independent from each other and having a different course of formation in the building up of the body. So far the evidence points more to the character of the round cells as an infiltration (including the plasma cells) than to that of an exudative product; there is as yet no direct proof that these cells can become tissue builders.

That the hematologic doctrine followed so long must undergo reconstructive changes in consequence of these studies is clear. In fact, the material accumulated everywhere, especially in regard to mixed forms of lymphatic and myelogenous leukemia, will not allow us to adhere to the old ideas of different seats of the leucocyte and lymphocyte formation. In this respect the most interesting contribution has been made by Leube, who describes a blood picture combining the types of leukemia and of pernicious anemia, and introduced for it the name of leukanemia. As to the histology of the blood, only the blood-platelets may be mentioned, to state that gradually their designation as third corpuscular element of the blood has been eliminated. The great impetus was given by Deetjen's experiments; control investigations have definitely shown that other than vital qualities produced the appearance of motility and of multiplication of these bodies. They are now generally believed to be nothing but products of retrogressive changes of the red corpuscles.

Of special pathologic conditions, the abdominal fat necrosis has received a great deal of work. After it was established by Oser, Flexner and others that any lesion, chemical or traumatic in nature, that leads to a focus of destruction of pancreatic tissue, may cause fat necrosis, the question remained unanswered: why this lesion, often occurring, and resulting merely in an indurative pancreatitis, under circumstances can become rapidly fatal and form what is called the pancreas-stroke? Hess has found that if fat is introduced into the pancreatic duct, such a fatal necrosis can be produced. He reasons that the fat is immediately decomposed, and that the fatty acids in combination with sodium cause a necrosis of the peri- and intrapancreatic fat tissue; the products of this necrosis secondarily attack the pancreas tissue proper and surrounding tissues. Soaps being exceedingly toxic, and it being probable that some of these compounds

enter into the circulation, he accounts for the profound symptoms of intoxication found in the cases of fatal fat necrosis. Other investigations will have to show whether this explanation is correct.

The main interest of bacteriology has been lying between the questions of the immunity-reactions and the tuberculosis problem, about which some remarks have been made. The problems of the bacillus of dysentery have led to the discovery that the original conception of an ubiquitous-everywhere-identical bacillus is not correct. It is certain now that the dysenteric epidemics in different countries or zones are due to bacilli very nearly related to each other, but nevertheless different, and especially different in their biologic qualities. Our American form differs from that found by Kruse and Shiga to a degree that we cannot speak of an identity. Lately publications have been made that bid fair to show that even in the same location such different forms can give the same clinical picture, a point that is important in view of the enthusiasm aroused by the discovery of Duval and Basset, that in summer diarrhea the infant's blood agglutinates the bacilli. As to this agglutination, the same must be said as about the agglutination of typhoid. Owing to the circumstance that for very perspicuous reasons the reliability of the Widal reaction appears great enough to allow of conclusions as to its diagnostic value, the method after which it is applied appears to be sufficient, and, besides that, theoretically correct. That this is a mistake, and that 90 out of 100 agglutination tests made for clinical purposes are theoretically not correct and can, therefore, not be conclusive as a diagnostic means, is a certainty.

It is the merit of Stern to show up this error, and to insist on a more exact procedure. His work is only the condensation of an immense amount of work done by numerous authors on the nature of agglutination and of the demonstration that different bacilli can be agglutinated by the same serum. A conclusive proof of the existence of a typhoid infection can only be brought by finding the degree of the agglutinating quality and by comparing it with the same quality of other bacilli. That in so many cases clinical and serum-diagnosis agree is, therefore, not a proof for the reliability of the serum-test in the way it is used. The attempts of producing curative antidysenteric serum are continued; that their results will be the same as those obtained in typhoid, cholera and other diseases is, *a priori*, certain. That only under a very rare coincidence of conditions an anti-bacterial serum may become curative, we know. For curing an infectious disease we need antitoxic sera. Toxins, like the diphtheria or tetanus toxin, we do not know so far in typhoid, dysentery, etc.

A great step forward in this line has been made by McFadyen, who succeeded in obtaining toxic substances from typhoid and other bacteria by triturating them and then extracting by high pressure their intracellular fluids. In this way fluids were produced of high toxicity, and the few experiments published so far, that were made by immunizing animals with these fluids, show that an antitoxic quality of the resulting serum can be hoped for. It is very likely that this new issue in dealing with intracellular toxins will prove of wide influence on serotherapy.

Other work is of too specific character to be alluded to here. We may, however, shortly refer to some researches that, although not bacteriologic, but parasitologic, have proved of exceedingly great interest and importance. In the first place must be mentioned the investigation of the etiology of a number of

tropical diseases to which murderous endemic pests among cattle, horses and other animals belong, and to which very recently a very mysterious disease, the sleeping sickness in man, has been added. The causation of these diseases by a flagellate organism has been carried on in every civilized country; in most cases, the mode of transmission has been found to be given by blood-sucking insects. As a result, that will be an immense stimulus to the study of protozoa, must be named the work of Novy, who found for the first time a method to cultivate as a pure growth, a protozoon, a trypanosoma living in the blood of the wild rat.

Our knowledge of malaria has received only small additions to what so richly has accumulated during the previous years. The one thing worth referring to is the result that Koch has obtained by applying his method of malaria extermination on a large scale on many thousands of people in malaria-infected areas. His theory, that malaria can be comparatively easily and cheaply exterminated by a thorough and rational treatment of all individuals carrying parasites in their blood, has proved true in his experiments, that were made under the most diversified conditions of climate and character of the population.

After the classic work of Reed and Carroll on yellow fever nothing of importance has developed for this disease. It may be well to mention, that seemingly a new factor of a never-before-experienced complexity bade fair to be taken up into the cycle of the development of the yellow-fever virus. While the two authors named had incontrovertibly proved that the organism causing the disease passed porcelain-filters, and that it must with our optical means remain invisible or at least undifferentiable, the *Working Party* of the Marine Hospital Service discovered in Central America that the transmitter of the disease (the *stegomyia fasciata*) was always infected by a protozoon, going through a cycle of development while within the mosquito, not unlike that of the malaria-parasite in anopheles, and that only mosquitoes thus infected would produce by their bite the disease in man. The report was beguiling and necessitated peculiar assumptions to reconcile its meaning with the findings of Reed and Carroll. Unfortunately or fortunately, the observers of the Working Party were only inexperienced enthusiasts and mistook a parasitic yeast cell, introduced into the stomach of mosquitoes with bananas fed to them, for a certain stage of their parasite. The other stages were furnished by their imagination and by the insufficient methods they used in preparing their material. It is again Reed, who has established these facts. The organism of yellow fever is still unseen, but not altogether unknown.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

At the New Orleans meeting of the American Medical Association the program of the section on obstetrics and gynecology contained two papers on obstetrical subjects, fifteen on gynecological subjects, and four papers on topics that had no relation to either obstetrics or gynecology. A resolution was offered suggesting a division of the program at future meetings more evenly between gynecological and obstetrical subjects. The resolution, however, was laid on the table indefinitely, this action being more or less due to the influence of one well-known gynecologist, who declared most emphatically that obstetrics was a well-rounded science and that at the present time no work of any importance was being done in this branch of medicine. We trust that the gentleman has followed the literature of the past year and by this time has changed his opinion.

I think that excellent contributions on obstetrical and embryological questions hold a leading place in the medical literature of 1903. For the first time in many years the obstetrical papers, so far as quality is concerned, outweigh considerably the gynecological literature. Of more than common interest are a number of contributions on the physiology of the sexual system.

It is well known that the ovaries serve some other purpose besides discharging ova at more or less regular intervals. The marked effect of the removal of both ovaries upon the further development and the function of the other genital organs and upon metabolism, and the possibility of preventing these effects by the transplantation of ovarian tissue, or by feeding certain substances extracted from ovaries, have proved beyond doubt that the ovaries produce some substance that is of integral importance for the normal function of the genital apparatus in the female. During the last few years the internal secretion of the ovaries has been the object of much speculation and investigation. Fraenkel's classical essay on this vexed problem, probably one of the most important contributions of the last year's literature, is a resume of a long series of observations and of the results of most interesting experiments made upon animals, which tend to prove that the production of this potent secretion of the ovary is confined to the corpus luteum. *The corpus luteum is a gland formed in the human female for a four weeks' function.* Fraenkel's contention that the corpus luteum is a gland has received of late very powerful support by the investigations of Franz Cohn in the "Histology and Histogenesis of the Corpus Luteum and the Interstitial Ovarian Tissues." This author found in the various stages through which the corpus luteum passes in the course of its development, all the changes characteristic of secreting glands.

In the literature we find the records of several cases in which after the extirpation of but one ovary menstruation disappeared for some time. Lindenthal sees in this phenomenon a proof of the influence the corpus luteum exerts upon the course of menstruation. He thinks that the extirpated ovary must have contained the one corpus luteum that would have produced the next menstruation.

The important role that the ovaries and testicles play in the growth and function of the rest of the genital apparatus has prompted the belief that their

existence is indispensable to the formation of the genital system in embryonic life. Halban shows convincingly the fallacy of this conception. Sex is determined at the very beginning of embryonic life. We are, however, still lacking the methods of distinguishing the sex in this early stage of development. The ovaries and testicles control not the formation but only the later development of the sexual apparatus, or, as Halban expresses it, they exert a "protective" but not a "formative" influence. Even the "secondary characteristics of sex" (as development of breasts, change of voice, etc.), may make their appearance in case of congenital absence of either ovaries or testicles. Very similar ideas were expressed in a very valuable paper by Hegar.

Lenhossek discusses all the various theories that have been advanced concerning the determination of sex in the embryo. The only conclusion he can draw from a critical review of numerous hypotheses is that the sex is determined in the very moment in which the life of the embryo begins. He thinks it very probable that the unfertilized ovum already contains the properties which decide the sex and that the spermatozoon has no influence. B. S. Schultze supports Lenhossek.

Schuecking succeeded in separating from the ovum a substance which has an agglutinating effect upon the spermatozoa. In his opinion, fertilization effects the development of the ovum by starting a free absorption of fluids from the surrounding tissues. The main factor determining the sex of the embryo is not the nucleus but the protoplasm of the ovum. The "male ova" contains more protoplasm and need a larger amount of resorbed fluids for their further development.

Iwanoff obtained splendid results in artificial insemination of mares. He used a suspension of spermatozoids in normal salt solution or in a slightly alkaline solution. These experiments are of the greatest practical importance and scientific interest. Among other things, they prove that the prostatic secretion cannot any longer be considered an essential constituent of the seminal fluid.

Scholten and Veit bring new experimental proof for their contention that by means of the injection of placental tissue syneytiolysins can be produced while the hemolytic properties of the serum remain unchanged. Liepman, by the injection of placental tissue into rabbits, succeeded in producing a serum that showed a specific reaction for human placental extract by formation of a precipitate. Opitz and Weichardt deny the convincingness of Liepman's experiments, although they believe with him that by a dissolution of placental tissue placentolysins are formed in the blood, which may act as toxins. Under normal conditions these toxins are neutralized and made inactive by the formation of anti-toxins, but in case of disturbance in this process of neutralization, the toxins produce eclampsia. These authors are at present occupied in producing a serum for the treatment of eclampsia. Boehm thinks that these toxins produced by the dissolution of chorionic elements in the maternal blood are the cause of hyperemesis gravidarum. Veit alludes to the probability of a connection between the deportation of chorionic villi into the maternal blood and the nutrition of the fetus. A hemolysin of the chorionic epithelia dissolves maternal hemoglobin which in this form is transmitted to the fetus. On the other hand, certain products of the fetal metabolism are carried into the maternal system by way of the chorionic epithelia which are dissolved by syneytiolysins formed by the action of the maternal erythrocytes.

Zangenmeister re-establishes the old theory that the blood of the pregnant woman is in an hydremic condition. The serum of the pregnant woman shows the following characteristics: its specific gravity and its molecular concentration are less than normal, it contains less albuminous substances but more colloids than the blood of a non-pregnant woman. From the fact that the relative number of the red blood cells is about normal, the conclusion must be drawn that their absolute number must be considerably increased during pregnancy.

In another paper, Zangenmeister and Meissl bring a biochemic proof for the theory that the fetus, at least during the last four months, voids constantly a certain amount of urine into the amniotic fluid. They base their conclusion upon the results of a most laborious examination of the amniotic fluid and of the blood serum of both mother and fetus as regards the chemical constituents and their respective freezing points.

During the course of acute infectious diseases there often occur uterine hemorrhages. According to Stravosciadis these hemorrhages are due to infection of the endometrium with the specific bacterium which causes the general infection. The infection is carried to the uterus through the circulatory system, and it seems that pregnancy and the puerperal stage are especially favorable for this mode of propagation. Premature interruption of pregnancy in the course of acute infectious diseases is, in the author's opinion, often due to such an infection of the uterus producing an acute endometritis.

A very elaborate essay by Fellner deals with a question that is of interest to every general practitioner: Which diseases contraindicate marriage or a new impregnation? The general principle is laid down that every disease that shows a mortality higher than ten per cent. should be considered as an absolute contraindication against taking the risks of pregnancy. Seventy different diseases are considered in detail. This very valuable contribution closes with the following three suggestions for the physician who may be called upon to decide in such a case. Prohibition of marriage may be a very cruel measure under certain conditions. In some cases the dangers can be considerably lessened by an artificial interruption of pregnancy. The physician who permits marriage under such circumstances takes an immense responsibility upon his shoulders.

Palm tried to influence the intensity and the intervals of labor pains by the administration of an extract made from *secale cornutum*, which he calls spasmotone. The results of his experiments are very encouraging and open a wide field for interesting experimentation, because he has apparently succeeded in starting labor pains with this preparation.

A topic receiving much discussion was Bossi's method of rapid dilatation of the cervix. Duehrssen attacked Bossi's method in an article entitled "Shall Bossi's Method of Dilating the Cervix be Considered an Advancement in Obstetrical Therapeutics?" He answered the question with an emphatic *no*. In the well-known German fashion Bossi replied, and was met by Duehrssen's rejoinder, the controversy gradually becoming rich in personal invective. It would seem to the unbiased reader that Bossi has been unable to hold his ground. Bumm and Schauta express their opinion as against Bossi's method. Zangenmeister's warning against Bossi's dilator is quite emphatic. Bardeleben demonstrated two specimens before the Obstetrical and Gynecological Society of Berlin which proved that even the most careful handling of Bossi's instrument does not exclude the possibility of very serious injuries. In a discussion before the

New York Obstetrical Society we find Jewett, Clifton Edgar, Murray, Coe, Grandin and others among the adversaries of Bossi's method. However, there may be found in the literature of the past year several reports on the successful use of this instrument: for instance, by Ostreil, Meyer, Beck, Calmann, Keller, Hammerschlag and others. It may be stated here, however, that even many of the advocates of the instrument warn against its use in cases of placenta previa.

The question of the treatment of rupture of the uterus during labor is discussed by Kolomenkin in a very exact and interesting paper. He offers very good arguments against the tendency of the last few years to rely entirely upon expectant treatment in cases of rupture of the uterus. His conclusion is that the operative treatment guarantees better results than conservative treatment, and that among all the operative procedures the total extirpation of the uterus with a free drainage through the vagina is the most successful.

In order to avoid serious and permanent palsies in the newborn, Bochrach, in a paper read before the Philadelphia Obstetrical Society, recommends the more frequent and earlier use of the forceps in labor. The prolonged pressure of the head as it so often occurs in the primipara is, in his opinion, responsible for all kinds of brain lesions and palsies. He says: "It would seem that in every child in whom at birth there are present symptoms of suffocation following dystocia, in whom there has been prolonged pressure and constriction of the head, it would be a justifiable procedure to rapidly make an opening of moderate size on either side of the parietal region. By such a procedure the effused blood escapes or could be washed out with a normal salt solution."

Such a polypragmasia well-nigh suggests the question whether there is such a thing as a normal physiological delivery. But this question seems to have already been answered with an "no." F. Leavitt, clinical instructor of obstetrics in the University of Minnesota, in a paper, announces with pride that for the last five years he has delivered almost every case with instruments, and expects his confreres and most probably his pupils to follow his example. Kamann reports a number of cases in which serious injuries to the skull, due to the use of forceps, have caused the death of the newborn.

Briens expresses very conservative views as regards contraindications against nursing. He finds such only in acute diseases of long duration, in tuberculosis and malignant tumors of the mother. Schlossmann even refuses to accept tuberculosis of the mother as an absolute contraindication against breast feeding. Nursing under such conditions does not mean a greater danger of infection for the child, but certainly makes it more resistant against infection, and guarantees its better development. As a rule, nursing does not seem hurtful to tuberculous mothers. It is an every-day experience that nursing mothers grow stout, and that is exactly the effect we try to obtain in tuberculous patients by means of overfeeding. Budin describes nineteen cases of la grippe, of uterine, puerperal and other infections, occurring in nursing mothers. The only precaution used was that the babies were kept away from the mothers, except during nursing time. No unfavorable results were noted in any instance as far as the nutrition of the babies was concerned.

Stroganoff subjects to a critical consideration the theories advanced by the many authors who have contributed during the past three years to the question of the pathogenesis of eclampsia. He repudiates the toxemic and uremic theories and offers new proofs for his own hypothesis that eclampsia is an acute in-

fection. His method of treatment—the administration of morphine and chloral hydrate, rectal injection of normal salt solution, administration of oxygen but no chloroform, and immediate delivery—still proves very successful in his hands. Hofmeier acknowledges the value of narcotics and other drugs in the treatment of eclampsia, but in his opinion the one measure which promises the best results and fails only in rare instances, is immediate forced delivery. In cases of advanced pregnancy the delivery can be obtained with but small danger to the mother by means of the vaginal Cæsarian section after Dührssen, which in his opinion is decidedly preferable to Bossi's method. Another strong advocate of immediate forced delivery is Maury.

There must be recorded in this connection a novel operative treatment for eclampsia. Edebohls reports a case of successful bilateral decapsulation of the kidneys for puerperal eclampsia. This trial was the logical outcome of the successful results the author had obtained by performing the same operation in chronic Bright's disease. It hardly can be expected that this new method will be adopted by the profession at large.

Schroeder criticises the usual form of eclampsia statistics, which simply record figures. He thinks that they would prove more useful if an attempt were made to divide eclampsia into different types, based upon the degree in which the kidneys are affected or upon the various forms in which the cerebral symptoms present themselves, etc.

Edsall pronounces the examination of the urine for urea as an indication of the possible onset of eclampsia as unscientific. The amount of excreted urea is, of course, dependent upon the amount of nitrogenous food taken. In later pregnancy the elimination of nitrogenous substances must be relatively smaller, because they are necessary to the formation of fetal tissues.

Marchand, in 1895, and Fraenkel, in 1898, had called attention to the strikingly frequent combination of cystic degeneration of the chorionic villi (hydatidiform mole) with cystic degeneration of the ovaries. In 1901, Stoeckel, in a very interesting paper, for the first time exposed the true nature of these cystic formations in the ovary—they were true corpus luteum cysts. Very recent investigations made by Pick, Jaffe and others have shown that in these cystic degenerated ovaries lutein cells are distributed all over the interstitial ovarian tissue. In the light of the classical work of Fraenkel on the physiological function of the corpus luteum (which has been mentioned in detail above), this increase of lutein substance suggests a close etiological relation between the degeneration of the corpus luteum and the degeneration of the young ovum into a hydatidiform mole. In Pick's opinion, in these cases a primary overproduction of lutein cells brings about an abnormal productivity of the chorionic epithelia. Pick goes one step further and assumes that the cystic formations found in the ovaries in cases of chorio-epithelioma malignum may be corpus luteum cysts. Runge's latest publication proves that Pick's assumption is well founded. He describes multiple corpus luteum cysts with dissemination of lutein cells all over the ovarian tissue in a case of chorio-epithelioma, and Krebs puts another case of this kind on record.

Diepgen refers to the difficulties of determining the true nature of such corpus luteum cysts even by means of microscopical examination. We refer the reader who desires to familiarize himself with the present status of the question

of chorio-epithelioma to an article of Teacher in the *Journal of Obstetrics of the British Empire*, which gives a most satisfactory resume of the subject.

Little that is certain is known of the causes that lead to the settling down of the impregnated ovum in the fallopian tube. In the hope of throwing further light upon this subject, Opitz has examined the portion of the tube which lies between uterus and ovum, in twenty-three cases of early tubal pregnancy. Of far-reaching importance in the etiology of tubal fetation are the changes which he found in the mucous membrane lining the tubes. He observed in a strikingly high percentage of cases a firm union between neighboring folds or between branches of the same fold. The number and extent of these adhesions varied very much, but in the majority of cases the adhesions were so numerous that on transverse sections the fold seemed to form a kind of sieve. By means of this agglutination branches of the tubal lumen are formed which end blindly, and it is very suggestive that an impregnated ovum may wander into such a cul-de-sac and there become arrested. Micholitsch arrives at a similar conclusion. He finds the ovum in tubal pregnancy, as a rule, developed in a saculation or blind-ending side branch. In his opinion these diverticula are either congenital or caused by inflammatory processes taking place in the mucosa. Those of the readers not familiar with German are referred to an article by Andrew in the *Journal of Obstetrics of the British Empire*, which gives a very good and clear review of the literature bearing on the anatomy of the pregnant tube; but the most complete expose of this question may be found in Hofmeier's report prepared as a basis for general discussion before the congress of German Gynecologists in Wuerzburg, 1903. It seems that it is now generally accepted that the impregnated ovum penetrates into the mucosa exactly as it does in the uterus. In the tube, however, the ovum develops outside of the tubal lumen, entirely within the muscular layers.

From observations of Opitz and Micholitsch, it seems obvious that the tube which has once harbored an impregnated ovum is very liable to become again pregnant and that there must be a considerable danger of the development of an ectopic pregnancy in the other tube, since inflammatory processes of the tubes are, as a rule, bilateral. The justification of such a contention is established by the frequency with which, of late, cases of repeated ectopic pregnancy in the same patient are recorded in literature. Vassmer collected one hundred and thirty-two unimpeachable cases of this kind.

Schambacher claims that in a considerable number of instances of peritubal and retro-uterine hematoceles ectopic pregnancy can be excluded. Kober denies the correctness of this conclusion in a paper in which he shows that the expulsion of the ovum from the tube may occur in such a complete way that chorionic tissue may be found in only very limited areas of the tube. The diagnosis of tubal pregnancy, therefore, can be excluded with absolute certainty only if both tubes have been divided into complete series of sections and all the sections have been examined microscopically.

Schenk formulates an answer to a question which is always of considerable importance and interest to the general practitioner: In which cases of ectopic pregnancy is operation indicated, and in which cases is conservative treatment permissible? He answers: If the fetus is alive, operation is to be performed at once. If the fetus is dead, operation is necessary under the following conditions: If there is an internal hemorrhage, if there is a severe external hemor-

rhage or if symptoms of infection make their appearance. In cases of uncomplicated hematoceles conservative treatment is permissible, but the patient must be observed closely. Schenk acknowledges, however, the argument made by Prochownik, that even in this last group of cases early operation under certain conditions will be a more conservative procedure than an operation performed when the onset of complications makes it unavoidable.

At a time when the Trendelenburg position stands in high favor with all surgeons, it is interesting to note an opposition to this posture. Kraske emphasizes the disadvantages of the elevated pelvic position, referring to paresis of the nervus tibialis anterior, emphysema of the abdominal walls, serious disturbances in the circulation, aspiration of stomach contents into the air passages, hemorrhages of the brain, etc. Franz proves by means of exact experimentation that the abdominal respiration in the Trendelenburg posture is lessened to a considerable degree in every instance, while the thoracic respiration in compensation is but slightly or not at all increased. This interference with the proper ventilation of the lungs during anesthesia may prove harmful.

Drainage after laparotomy is discussed freely by a number of German gynecologists. Olshausen asserts most emphatically that drainage is a superfluous, if not dangerous, procedure in almost all gynecological operations. In a total number of 1,555 laparotomies, he resorted to drainage or a tamponade in but nine cases. Hofmeier accepts, in a general way, Olshausen's views, but finds, however, ample justification for the use of drainage in all cases in which there remain large cavities lined by ragged and infiltrated walls that do not fall together and cannot be brought together by sutures. Sippel attacks Olshausen's extreme views, arguing that a number of Olshausen's patients had died, and that he had some doubt whether some of these might not have been saved by a proper use of drainage. Fehling, too, refuses to accept Olshausen's views concerning drainage.

Macnaughton-Jones considers the importance of proper attention to the mouth and teeth before and after operation upon the pelvic viscera. Parotitis as a complication after laparotomy, especially after operation upon the ovaries, has been so often observed and reported that a number of writers have tried to explain this occurrence on the ground of a sympathetic relation between the parotis and certain abdominal organs. Macnaughton-Jones thinks that the parotitis is simply due to an infection from the mouth, if the latter and the teeth are not properly attended to after a long anesthesia, especially if the patient vomits freely.

The writer of these lines would suggest that the infection of the parotis may, to a considerable degree, be propagated by the traumatism to which the parotis is exposed, if the anesthetist presses against the gland in his endeavor to push the jaw forward.

One of the most important features of the meeting of the American Gynecological Society (Washington, May, 1903) was a symposium on the question: "Should the uterus be removed when the ovaries and tubes are removed in cases of double pyosalpinx when operating either through the abdomen or vagina?" There can be no doubt but that the majority of the speakers leaned towards conservatism. There were, however, quite strong arguments advanced in favor of radical operation, for instance, by Mann. Most of the speakers considered that the uterus should be removed if found extensively diseased, and Bovee's

point seemed to have been well taken when he said that in most cases the removal of the uterus will be found necessary.

In marked contrast to the year 1902, in 1903 very little was written on tuberculosis of the genital organs. There is one publication of interest by Gottschalk, in which he endeavors to prove that there is a possibility of congenital primary infection of the female genital organs with tuberculosis.

Atmokausis (application of steam to the uterine cavity) has found its legitimate place in gynecological therapeutics, especially in the hands of German and Russian gynecologists. Pincus, the most ardent advocate of this procedure, published quite a voluminous book (Pub., J. F. Bergman, Wiesbaden), which embodies the indications and the technique of the method. Fuchs reports very satisfactory results obtained in cases of serious hemorrhage during the climacterium by the use of atmokausis, especially in combination with curettement.

Sarazzin reports a case of peritonitis and death following the application of steam to the uterus, but in this case, just as in other similar cases reported previously, no positive proof can be offered that the unfavorable outcome was due to this method.

The literature of 1903 contains the usual number of new devices for the rectification of retrodisplacement of the uterus. Several new modes of forming loops of the round ligaments have been invented.

Simpson's method consists in an intra-abdominal but retroperitoneal shortening and anterior fixation of the round ligaments. G. H. Noble's operation, the intramural and extraperitoneal implantation of the round ligaments, seems identical with an operation described by Bardesou as a slight modification of an operation devised by Doyen in Paris. Byford also loops the round ligaments intraperitoneally, as so many have done before. The modification consists in stitching the loops to the abdominal wall near the internal inguinal ring. Foschini draws the round ligaments through a button-hole on each side, about 3 cm. outside the inner edge of the rectus muscle. Alexandroff forms folds in the lower portions of the broad ligaments by means of a vaginal operation, these folds meeting each other in the median line in front of the cervix, pressing the latter backwards and upwards. Bovee emphasizes in a few articles the advantages of the shortening of the sacro uterine ligaments in operation for retroflected uterus. Goelet advises a rather simple operation for certain cases: the denuded posterior lip of the cervix is stitched to a corresponding denuded surface of the posterior fornix.

The reports of Kuestner and Martin to the Society of German Gynecologists (Wuerzburg, 1903), contained a very complete review of the technique of all of the modern operations for prolapsed uterus.

Rosenfeld and Menge devised new pessaries for very severe cases of prolapsed uteri.

Contributions on the subject of myoma of the uterus still show the tendency to regard myoma as by no means the harmless disease it was claimed to be by older writers. Bland-Sutton considers the "Perils and Complications of Fibroids After the Menopause." His views are briefly expressed in the following quotation from his paper:

"Some writers believe that they (fibroids after the menopause) occasionally disappear, but this is very hard to prove and harder still to believe; therefore, as a concession to tradition it may be described as a phenomenon about as rare as

the advent of a comet." "Surely there is nothing in the whole range of surgery more ironical than a woman spending twenty or even thirty years of her life as a chronic invalid on account of a uterine fibroid, in the expectation that at the menopause she will be restored to health and begin a new life, and then to realize that, far from this dream being fulfilled, the fibroid becomes necrotic, extruded or septic, places her life in the gravest peril, and that she may die in spite of surgical intervention."

Ch. P. Noble draws interesting conclusions from a careful consideration of two hundred and fifty-eight cases of uterine myo-fibroma of his own observation. In his belief death will result in about one-third of all cases if not submitted to operation, and in more than one-fourth the result will be chronic invalidism. The attitude of the text-books should be reversed and the rule of the practitioner should be to remove all fibroids that come under observation unless there seems to be in the particular case a good reason for temporizing. Hunner also pleads for a more active treatment of uterine myoma.

A very elaborate study of the so-called malignant myoma (leiomyoma malignum uteri) has been made by Ulesko-Stroganova. This myoma is of a very malignant type, metastases are formed at an early stage, always resulting in a fatal issue. This type of myoma is due to a metaplasia of muscle cells into cells which hardly can be differentiated from the sarcoma cell.

This writer and Cullen confirm in their papers the symptoms described previously by other authors as characteristic of sarcomatous degeneration of myomas—*i. e.*, rapid increase in size of the tumor, pain, hemorrhage and cachexia.

Noble, in a paper which contains a number of very good illustrations, gives a clear description of the removal of the myomatous uterus by hemi-bisection, a point which is also very clearly illustrated in a noteworthy paper by Howard A. Kelly, read before the Glasgow Obstetrical and Gynecological Society.

To Ries undoubtedly the credit is due of having been the first to advocate the removal of the pelvic lymphatics together with carcinoma of the cervix. It was a rule with him to examine all the removed lymph glands and he was the first to describe a very peculiar condition which has since been observed by Kroemer, Wertheim and others; namely, the presence of epithelial ducts in lymph glands which vary in size but never show any of the changes typical of malignancy. The only explanation that Ries finds for the presence of these epithelial ducts in the lymph glands is that they might be remnants of the Wolffian body.

In several instances Ries found a peculiar kind of lymph glands known as hemo-lymph glands. The characteristic of these glands is that their sinuses, instead of containing lymph and leukocytes, contain red-blood corpuscles mixed with the leukocytes. These glands stand in direct communication with the blood current, and offer an entirely new explanation of the different ways in which carcinoma of the uterus may form metastases. In a recent paper Wertheim confirms the observation of Ries that these epithelial ducts do not show any symptoms of malignancy. He does not, however, accept Ries' theory that they are remnants of the Wolffian body. Wertheim found these ducts in a certain percentage of all his cancer cases. For the sake of comparison the pelvic lymph glands of eighty cadavers, which did not show any signs of carcinoma, were subjected to a careful microscopic examination which proved entirely negative in every case. From this observation Wertheim is forced to conclude that notwithstanding the

fact that these epithelial ducts in the lymph glands do not show any signs of malignancy, they must be of a carcinomatous nature.

Kundrat studied the mode of dissemination of carcinoma of the cervix into the parametric tissue. He found a direct propagation *in continuo*, or the formation of isolated nodules within either the lymph glands or lymph vessels, lying completely separate from the cervix within the parametric tissue. Metastases were, as a rule, found in the lymph glands and only very rarely in lymph vessels. The writer uses this fact as an argument in defense of the efficacy of Wertheim's operation against the claims of certain writers that this operation does not permit of a thorough eradication of the lymph vessels. A very exhaustive paper by Kroemer gives a good survey of the present status of the lymph gland question in cancer of the uterus.

A paper which will considerably enhance our knowledge of the carcinoma problem is one by Hitschmann. The possibility of metaplastic changes in carcinoma tissue is almost generally acknowledged. Hitschmann brings the convincing proof that in glandular carcinoma of the uterine body this change of cylindrical into squamous cells is a rather common occurrence. The few cases recorded in literature where in the same uterus both adeno-carcinoma and squamous cell cancer were found, require, in the light thrown on the subject by this author, a new explanation. The squamous cell carcinoma in these cases simply represents a metaplasia of the adeno-carcinoma.

There are but a few contributions dealing with the operative treatment of cancer. It would seem that the radical abdominal operations with extirpation of the pelvic lymph glands (after Wertheim, Mackenrodt, and others) are gaining in favor. Kroemer, and especially Olshausen, emphasize, however, the fact that there is still a place for vaginal panhysterectomy in the treatment of uterine cancer as long as positive proof is wanting that the more dangerous radical abdominal operation guarantees better lasting results. Very interesting is an elaborate paper by Lomer in which he shows that even an operation which did not remove all carcinomatous tissue may result in a complete cure.

Very exact observations have shown beyond doubt that under certain conditions particles of carcinomatous tissue which could not be removed at the time of the operation will not only fail to grow but gradually disappear. An article by Klein in the *Munchn. Medic. Wochenschrift* gives a short and lucid expose of the present views concerning operative treatment of uterine cancer.

There is to be found in the literature of the last year the usual amount of discussion on the vexed question of the relation of diseases of the sexual apparatus and the nervous system. The problem remains unsolved. Freund published an interesting paper in which, based upon certain anatomical and histological investigations, he intimates a certain specific influence of parametritis posterior upon the development of hysteria. His paper was freely discussed by a number of German gynecologists, and it would seem that this new theory of the etiology of hysteria in the female did not meet with a very enthusiastic reception.

Theilhaber considers the influence of the nervous system upon uterine hemorrhages. The influence of the nervous system upon the function of all the organs of the human body, whether in condition of health or disease, is a most powerful one. The width of the lumen of every blood vessel is under the direct control of the nervous apparatus, which in this way regulates the function of all

excretory organs and of all mucous membranes, including those of the genital apparatus. The influence of emotion upon menstruation is well known, and the idea suggests itself that certain abnormal conditions of the nervous system may be responsible for irregularities in the function of the sexual organs, as amenorrhea, menorrhagia and metrorrhagia.

Theilhaber cites in support of his theoretical conjectures a number of exact clinical observations. It is evident that in such cases local measures, especially curettement, will prove absolutely ineffective, and only careful attention to the general condition will yield satisfactory results.

The same preponderance of obstetrical over gynecological publications which has been shown in the foregoing, as far as current literature is concerned, may be seen in the new text-books published in the past year. We find as new authors of notable text-books on obstetrics: E. Bumm, of the University of Halle, J. Clarence Webster, J. Whitridge Williams, and J. Clifton Edgar. Under the supervision of F. von Winckel, of Munich, a new encyclopedia of obstetrics will be edited by a number of the best known German obstetricians. The first half of the first volume (a book of more than 650 pages) has just appeared. Two more volumes will complete this most elaborate work.

Barton Cooke Hirst, the author of one of the most popular text-books on obstetrics, has published an excellent text-book on gynecology, and Palmer Findley devotes a volume of about 500 pages to the "Diagnosis of Diseases of Women."

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

The year has been marked, as usual of late, by very decided activity in the field of pediatrics. Much work of lasting value has been done, which can hardly be chronicled in so condensed a summary as this, and no attempt at completeness of review can be made here. A brief discussion of some of the unsettled questions in pediatrics follows:

Feeding of Infants.—In America, studies on the question of substitute feeding have continued to take the line of more or less accurate percentage modifications of cow's milk. It is being recognized, perhaps more clearly, that complicated mathematical formulæ are, on the one hand, not feasible as working bases in actual practice, and on the other, as not necessary for the attainment of good results. Yet it is nevertheless true that the American school holds fast to the general percentage principle as the best means of modification of cow's milk to fit it for human infantile digestion.

At the same time it is becoming more and more evident that no kind or amount of modification can make a poor milk a suitable infant food. There can be no question that pure, clean, *raw* cow's milk is better than the sterilized or pasteurized product. And in the larger cities the effort to obtain such milk is meeting with more and more success. It has been shown, largely through the work of the so-called Milk Commissions, that clean milk can be produced on a commercially profitable basis, and the number of dairies producing "certified

milk" has grown very decidedly of late. A recent monograph issued by the U. S. Department of Agriculture on the "Milk Supply of Two Hundred Cities and Towns" (Alvord and Pearson) shows, however, how deplorable the situation still is. It rests with the profession—which has taken the initiative in the important work of improving the milk supply—to carry the good work on. For, whatever system of substitute milk feeding be used, there can be no question that the use of a good, clean milk is a prerequisite of success.

With reference to the proper diluents to be used, it appears to be the consensus of opinion that cereals are of decided value—distinctly better than plain water. Of late it has been shown that in many cases the use of whey as a diluent is useful in those cases in which only a very low percentage of caseinogen is tolerated. In this way a high proteid can be given—often a point of value.

When one considers the study and the care given to the subject of infant feeding in America, it strikes one as strange to note the ease with which the French school disposes of the question. In France, as is well known, the use of whole milk, sterilized (commercially obtainable at the so-called "Gouttes de Lait" all over the country) is almost universal. If any modification at all is used, it consists simply in the direct dilution of cow's milk with water. Thus in the new French *Cyclopedia of Diseases of Children* (Comby and Grancher), the first volume of which has just appeared, the subject of infant feeding is settled in a way surprisingly simple. For the first month a dilution of equal parts milk and 5 per cent. sugar solution. For the second month two-thirds milk and one-third sugar solution. For the third month three-fourths milk and one-fourth sugar solution, and for the fourth month pure milk. Jacobi's use of cereal decoctions is mentioned, but otherwise the work of American authors on the subject receives no notice.

In Germany the system of determining the food value by the estimation of calorimetric equivalents is still in vogue. During the past year, however, there have appeared several articles embodying the results of feeding whole milk. Fitschen, for instance, has reported 131 cases where feeding was begun with diluted milk, the strength of the mixture being rapidly increased to the point of using whole milk. Care is taken not to overfeed the infants, and the milk is, of course, withdrawn immediately if gastro-enteritis supervenes. It was found that not only normal children, but even atrophic cases did remarkably well. Cohnheim and Mueller report the results of their studies in the use of sterilized milk. It was shown that while the fats and proteids were assimilated very easily when sterilized milk was given, the lime salts were not, and the milk ferments were destroyed. They argue, therefore, that the prolonged use of sterilized milk may lead to disturbances of true growth. (An American writer (Sill) also concludes that the prolonged use of either sterilized or pasteurized milk may, and does, cause rickets and scurvy). In Germany, however, the trend of opinion inclines more and more to the belief that every effort should be made to induce mothers to nurse their children, and failing this, that wet nurses should be employed. At the last International Congress in Madrid, Monti, of Vienna, declared emphatically that human milk is the only proper food for infants, either that of the mother or of the wet-nurse, and he went so far as to maintain that the institution of wet-nursing should be under direct legal control.

The English school adheres to the direct simple solution of cow's milk. According to Hutchinson, dilute cow's milk, condensed milk and peptonized milk

represent the positive, comparative and superlative of digestibility. He finds that mercury, in the form of gray powder, is often of very great value in indigestion, even where there is no reason to suspect a luetic taint. He notes furthermore that the inability to digest milk is often accompanied by an increased capacity for the conversion of starch, a point that has been elsewhere insisted upon.

As one of the curiosities of the subject, there may be mentioned the work of Lissauer, who determines the quantity of food to be given by a series of exceedingly complicated formulæ derived from careful measurements of the total body surface!

Of the various surrogates for cow's milk in artificial feeding, mention need be made only of buttermilk the use of which was alluded to in last year's review, has been steadily increasing. Reports indicate that it is of great value for premature and weakly infants, for infants with chronic gastro-intestinal catarrh and in cases of infantile atrophy. Normal infants also thrive excellently upon it.

General Hygiene.—There has been much discussion recently concerning the question of "hardening children." The advocates of the system claim that systematic roborant treatment—including as one of its essentials the use of the daily cold bath with friction—is of very decided value in a great many cases. While it is not claimed that the treatment is applicable to all children, it is maintained that those children who can stand the treatment are very greatly benefited by it. Hecker sums up the views of those who do not believe in the system. According to him, the treatment not only offers no protection against taking cold, but it actually increases the predisposition thereto. In addition it adds to the nervousness of many children, is often the direct etiological factor in the production of neurasthenia or severe anemia. The treatment should never be begun too early—never in infancy. Anemic and nervous children are not fit subjects for the treatment.

School Hygiene.—In many American and continental cities, regular school inspection is now the rule. The good results that have followed the introduction of this system are everywhere apparent. The spread of the acute infections, of skin and eye troubles has been decidedly diminished. Herrman reports the excellent results achieved in New York, where in addition to the regular medical inspection a corps of trained nurses is employed to treat (daily), under medical direction, cases of conjunctivitis, ringworm, impetigo, etc.

Diseases of the Newly Born—Infections.—Hamill and Nicholson present a series of carefully studied cases. They conclude that any classification today must be a purely bacteriological one, that the clinical manifestations hitherto described under the various headings of melena, hemorrhagic disease, hemophilia, Buhl's disease and Winkel's disease may exist as evidence of any one of a number of infections. Regarding ports of entry, the authors believe that the buccal cavity, tonsils, pharynx and gastro-intestinal tract are the most common, and that too much attention has been given the cord in this connection.

Specific Infectious Diseases—Scarlet Fever.—The question of the specific etiological factor of scarlet continues to arouse the greatest interest and the most widespread discussion. Class, of Chicago, reiterates his contention that the diplococcus described by him some time since is undoubtedly the specific excitant of this disease. This is a large diplococcus—four times as large as an

ordinarily staphylococcus—found in 90 per cent. of all throat cultures, if made early. Special earth agar is the medium of choice. Weaver, after a careful study of the subject, believes that scarlet is a streptococcic infection, and finds the streptococcus present on the tonsil in enormous numbers in nearly all cases. On the other hand, Hektoen, as the result of his researches on the blood of scarlet fever patients *intra vitam*, contends that no direct support is given to the theory that scarlet is a streptococcic infection. Baginsky believes that scarlet is certainly a streptococcic infection—though the actual species has not as yet been discovered. And while this is being written there comes the announcement that Mallory, of Harvard, has discovered the *causa causans* of scarlet—not in a bacterium, but in a protozoon, as in the case of malaria. This protozoon has been found in the epithelial cells of the skin and tongue, and in the superficial lymph vessels and spaces of the corium. Evidently the question of the specific excitant of scarlet cannot be said to belong to the *res judicata* of medicine.

Of special symptoms, Aubertin calls attention to an early symptom first described by Mayer. This consists of a peculiar tingling and pricking of the hands, most distinctly felt in the palmar aspect, without redness or swelling. There is no pain. Inasmuch as the symptom comes on early—and does not occur in the other exanthemata or in the various scarlatinoid eruptions, it is believed that it might have diagnostic value in doubtful cases.

Baum has published an interesting resume of all cases of scarlet (628) seen by him in hospital during seven years. An abstract of this article appeared in this journal in November. Attention has been called again to the fact that there are undoubted cases of scarlet with relapse. Shaw has published such cases recently.

Sutherland, while insisting upon the intensely contagious nature of the disease, doubts that it can be transmitted by a third person. He does not even believe that a nurse or attendant can convey the disease, and quotes statistics in favor of his contention.

With reference to treatment, Saunders lauds pilocarpine as being of great value. It has a direct effect upon the salivary and muciparous glands, and also possesses marked toxilytic properties. Its administration should be carefully watched, especially at first—atropine is the direct physiological antidote to be used if necessary. The good effects of the treatment—which need not cause the exclusion of other therapeutic measures—are seen in the reduction of temperature, the relief of the dryness of the mouth and tongue and the prevention of glandular infection.

Of great interest is the subject of the treatment of scarlet with scarlet-streptococcus serum. Moser, of Vienna, has reported the results with his serum. This was prepared by injecting pure cultures of various varieties of streptococcus into horses—and after months of immunization—bleeding the animals. The serum thus obtained was polyvalent, but very large quantities (180–200 cc.) were required. Of eighty-four cases injected (only severest cases being taken) sixteen died (19 per cent.). The results while encouraging are not as yet satisfactory; but it is believed that better results can be obtained with a better serum, especially if the injection be done early. Leyden has treated a number of cases with human serum obtained from convalescent scarlet fever cases. Of sixteen

cases, twelve were distinctly improved. No bad effects followed the injections (at first a small amount, subsequently 20 cc.).

Fischer has treated two cases with antistreptococcic serum, with good results in both cases, disappearance of the necrotic membrane after fourth day, and decline of temperature (by lysis).

Diphtheria.—Dourcart has published some interesting statistics as to the persistence of Klebs-Loeffler bacilli in convalescents. In 65 per cent. of cases treated by antitoxin, the bacilli disappear with the membrane; in 20 per cent. they persist for several days after; in 15 per cent. they persist considerably longer. There is no doubt that in exceptional cases they may persist for several months, though in these cases it has been shown that the virulence is much diminished.

In a discussion of the causes of death in diphtheria, Kohn says that they may be divided into three groups: (*a*) mechanical, (*b*) toxic, (*c*) as a result of complication. In the first class, asphyxia, due to closure of the glottis, plays the most important role. When it occurs early, spasm of the hypersensitive glottis may be the cause of the stenosis; while later on the effects of swelling and exudate become more marked, spasm now playing no part.

The toxemic form of death is due to direct intoxication of the system and consequent depression of all the body tissues, by the toxalbumines elaborated by the bacilli. It is to be remembered that very frequently there is a mixed infection, and death in these cases may be due to streptococcic septicemia.

Of the complications broncho-pneumonia is most to be dreaded. It occurs most often in the laryngeal cases. In septic diphtheria, nephritis may be the cause of death. Heart failure is a common cause of death, and may come on at any stage of the disease. Cardiac thrombi may form—or there may be a complete myocardial degeneration. In some cases the combination of diphtheria with other infectious processes—*e. g.*, scarlet, measles—may be the cause of death.

Comby presents an exhaustive review of serum therapy. The dose of antitoxin should be proportionate to the age, 2000 units under two years, 4000 for older children. In cases of grave diphtheria, in cases coming under observation late, and in laryngeal diphtheria, these doses should be doubled and repeated in twenty-four hours if necessary. Large doses up to 20,000 units may be necessary. Serum should be injected in suspicious cases without waiting for the bacteriological test. In severe cases there are no contra-indications to the use of the serum, but in mild cases the author believes that the presence of tuberculosis and of chronic Bright's render great caution necessary. This observation has not been confirmed by other clinicians. Comby is a firm adherent of the prophylactic injection in exposed children, and in this connection it may be observed that Caille goes so far as to recommend a prophylactic injection for *all* school children once or twice during the school year. Inasmuch as the immunity conferred by such injection is not supposed to last more than three or four weeks, it is difficult to see how a single injection of this sort can be of great benefit.

Comby (and Monti) also discuss the question of serum exanthems. These eruptions are due to an intoxication from the injection of a proteid containing fluid of an animal of different species. They take various forms, and may appear early or very late, but they should never be considered a contra-indication

to the use of the serum. Monti believes that a direct relation exists between the amount of fluid injected and the production of the eruption. For this reason the use of concentrated sera (small quantity of fluid) is to be preferred.

Cairns recommends the intravenous injection of the serum, especially in malignant and toxemic cases, in cases with marked pulmonary involvement—or as a last resort in moribund cases. The initial dose should be 20,000–25,000 units—but the author has used as much as 82,000 units in a single case.

Measles.—Linsbauer has shown that the pseudomembranous laryngitis which sometimes complicates measles is very frequently due to the Klebs-Loeffler bacillus. In fifty cases of this sort this bacillus was found in twenty-nine (58 per cent.).

Platenga studied the blood in measles and found that while during the stage of incubation there is a distinct and constant leucocytosis running up to 20,000 whites or over, during the stage of eruption there is a distinct diminution in the number of whites (leucopenia), with relative increase of the mononuclears. This author also believes that measles and rotheln are identical, due to different degrees of virulence of the same germ, a view certainly not shared by the majority of clinicians today.

Whooping-Cough.—Reyher, as the result of a very carefully conducted research, says that he is able to confirm the claim of Czapluski (made in 1897) that the specific germ is a small, non-motile, short rod, with egg-shaped rounded ends, which, morphologically as well as tinctorially, somewhat resembles the influenza bacillus. Jochmann, on the other hand, found another bacillus (which he regards as the specific etiological factor) in 20 cases of pneumonia complicating pertussis. This germ also resembles the influenza bacillus, and J. therefore feels that special care had best be shown to children with influenza in the environment of children with pertussis. The collective investigation report of the American Pediatric Association (recently collated by Morse) showed only 5 cases of transmission of pertussis by a third person. Such transmissions must, therefore, be very rare.

Jacobson calls attention to two atypical forms. A ‘forme fruste’ without whoop (which could hardly be recognized except in the presence of an epidemic), and a dyspeptic form, with marked predominance of gastro-intestinal manifestations.

There have been various ‘specifics’ for the treatment of pertussis discovered of late, as usual.

Typhoid Fever.—Nobecourt collected 1826 cases of typhoid occurring under the age of fifteen. Of these 33 (1.8 per cent.) were under the age of two. He considers the prognosis of typhoid in very early life as grave, because of the liability of complicating gastro-enteritis, inasmuch, as this renders the proper nourishing of the infant almost impossible. In an article on fetal, congenital and infantile typhoid, Morse confirms this view as to the grave prognosis of typhoid in very early life. Of 16 cases occurring under the age of two (Widal positive in all) the mortality was over 50 per cent. In a review of the subject of typhoid in childhood, Koplik points out that the varying severity of the epidemic must always be borne in mind, but taking all factors into consideration, he is inclined to believe that the mortality of typhoid in childhood is at least as high as in adult life. It is certainly true that the mildest cases may suddenly

show the severest complications, and the causes of death are almost the same as in later life.

Griffith, as the result of his studies of the literature and personal observation, concludes that typhoid is much more common in early life than had formerly been supposed. The Widal test has made the diagnosis more easy. Josias and Toslemer found the Widal positive in 49 of 50 cases in childhood. It is usually present before the tenth day, but is subject to the same variations as in the adult. Griffith notes the tendency of the nervous symptoms to overbalance the intestinal ones in childhood. He remarks, too, that children tolerate high temperature much better than adults, so that very vigorous antipyretic measures are not always necessary. Churchill has studied the blood of children in typhoid. He finds approximately the same conditions as obtain in adult life—reduction of reds and of hemoglobin, with leucopenia and a relative lymphocytosis.

Influenza.—Williams calls attention to the great morbidity and the frequently great mortality from this affection in childhood. The division of cases into various types is more or less arbitrary, as nearly all cases show the mixed variety. A form of the disease often overlooked is the chronic variety; chronic cough with glandular enlargement is often influenzal in character. Relapses and sequelæ are common even during convalescence, and may follow even very mild initial seizures.

Rheumatism.—The modern trend of opinion inclines more and more to the belief that acute articular rheumatism is an infectious process. The definite exciting germ has not as yet been absolutely fixed upon, although the discoveries of Apert and Triboulet, subsequently confirmed and extended by Poynton and Payne, have lately been confirmed again. But even though there be some question as to the direct relation of this diplococcus to rheumatism, it is generally held that rheumatism is, in fact, an attenuated septicemia. Avanzino has even gone so far, on this theory, as to treat sixteen cases with intravenous injections of bichloride of mercury. He claims to have noted marked and rapid improvement, without relapse.

The close relationship of chorea and rheumatism has been noted for a long time. At the last meeting of the British Medical Association, Lees insisted upon the connection of the two diseases, and stated that he gets excellent results in the treatment of chorea with the salicylates. Kobrak, who also believes in the association of the two affections, believes that, in addition to the rheumatic virus, a nervous element is at work in the production of chorea in rheumatically predisposed children. In this way he explains the preponderance of chorea in the female. He reports very good results from the treatment of chorea with aspirin. Probraszchwewsky has even gone so far as to treat three cases of chorea with a polyvalent antistreptococcic serum (with excellent results), in the theory that many cases of chorea are undoubtedly infectious. It is noteworthy that neurologists absolutely deny the infectious nature of *all* cases of chorea, claiming that various varieties must be recognized.

Tuberculosis.—The discussion as to the transmissibility of bovine tuberculosis to the human being still goes on with unabated zeal. In the last number of the *Archiv fuer Kinderheilkunde*, Ganghofner, of Prag, insists that such transmission is so rare as to be practically a negligible quantity, and other German authorities have voiced like sentiments. American authorities take a precisely

opposite view, and succeed in adducing most convincing proof of the danger to the child from the ingestion of milk from tuberculous cattle. Price Jones urges that studies be made to isolate the bacilli causing alimentary tuberculosis as to whether they are always the same, what relation they bear to bacilli found in cow's milk from cows with tuberculous udders, and to other so-called varieties of the tubercle bacillus. Another Englishman, Raw, believes that primary intestinal tuberculosis is probably bovine in origin, but that it is a variety distinct from human pulmonary tuberculosis. He believes that bovine tuberculosis is more virulent for children than is the "human" form, and even goes so far as to suggest that the cervical tubercular adenitis of children is due to absorption of tubercle bacilli from the milk through the tonsils. Reid calls attention to the fact that in India the milk for human consumption is all boiled, and that children take little or no meat. *Tabes mesenterica* is almost unknown there, and tubercular hip trouble is very rare.

Discussion as to the treatment of tubercular peritonitis is still rife. Of the three forms, ascitic, fibro-adhesive and ulcerative-suppurative, the best results have followed laparotomy in the ascitic form. But statistics show that this class of cases also does very well under medical treatment. Leroux has reported a severe case of the fibro-adhesive variety, without ascites, which recovered under simple open-air medical treatment.

Guthrie reports forty-one cases—fourteen with laparotomy—with seven deaths (50 per cent.), twenty-seven treated medically, with four deaths (16 per cent.). Other statistics, however, show better results with laparotomy. An absolute decision of the question of the value of laparotomy as routine treatment in this disease has not been had as yet, but it would appear that the operation does not do as much as was at one time claimed for it.

Diseases of the Digestive System. Recurrent Vomiting.—Edsall has reported six cases in which acid intoxication of the type seen in diabetes was present. Treatment directed to the correction of this error of metabolism (by use of large quantities of bicarbonate of soda) had strikingly good results. Pierson also reports four cases with diacetic acid and acetone in the urine, where the use of the alkali gave relief. Ely insists upon the importance of differentiating this condition from so-called bilious vomiting. According to Valagussa this condition is only one symptom of an acid intoxication of the organism induced by unknown poisons in uricemic subjects.

Summer Diarrhea.—The relation of the bacillus of Shiga to the summer diarrheas has been diligently studied of late. While the last word has certainly not been spoken on this subject, it would appear to be definitely established that the Shiga bacillus is the exciting cause of a certain group of these cases. As a clinical fact, it has been noted that the bacillus is most apt to occur in the cases in which both blood and mucus are found in the stools. It is found, moreover, that the cases with positive bacillary find present no characteristic autopsy lesions; indeed, Knox insists particularly that no one type of the disease is associated with B. Shiga. It is probable that B. Shiga is itself a group organism with at least two distinct types. Flexner believes that whatever the Shiga bacillus does it does early, later there is always a mixed infection. If the serum treatment is to be of avail (its use now is merely experimental) it must, therefore, be given early.

Parke has called attention to the fact that, in cases of intestinal disorder, children can safely be deprived of all food for much longer periods of time than has been advised in the text-books. He reports two cases of withdrawal of all food for five and eight days respectively, water being allowed. The intestinal symptoms cleared after these periods, and both children recovered promptly.

In the treatment of gastro-enteritis, Hutinel relies upon an initial purge with calomel or oil, withdrawal of all food, and the substitution of sterile water. He uses very few drugs, not even alcohol, and places no reliance whatever on the so-called intestinal antiseptics.

The use of sterilized gelatin in gram doses as a direct addition to milk, has been highly recommended by certain French authors of late, who find it a better astringent than the usual drugs employed.

Diseases of the Respiratory Tract—Croupous Pneumonia.—Jenning calls attention to a sudden drop in the temperature curve without corresponding drop in pulse or respiration, followed by a secondary rise. The temperature then continues the typical pneumonic course. No explanation is offered. Griffith reports several cases, and has collected several from literature, where all the early symptoms pointed to appendicitis, but where, after 36-96 hours, the typical signs of pneumonia showed themselves and the abdominal symptoms disappeared. The necessity for careful and repeated chest examinations in children showing these symptoms is thus apparent.

Broncho-Pneumonia.—In the treatment of this condition, Kerley thinks it important to make the child comfortable. Fresh air is necessary, and the room should not be too warm. The author has discarded the use of jacket poultice or cotton jacket, because of the tendency to make the child uncomfortable. Food should be easily assimilable; in infants the milk should be well diluted. Steam inhalations with creosote (ten drops to the quart) are of value; so, too, counter-irritation with mustard plaster. Internal drug treatment is largely symptomatic. As expectorants, Kerley prefers ipecac. and tartar emetic, with Dover powder, to the ammonia salts. For a heart stimulant, tincture of strophanthus is preferred, alcohol being used only late in the disease.

Jacobi contributes a very interesting paper on interstitial pneumonia, which often rests on a luetic basis.

Diseases of the Circulatory System—Chronic Myocarditis in Childhood.—Zupinger has reported two cases of this rare condition; one after diphtheria, the other after pneumonia. The prognosis is naturally always unfavorable.

Adams has collected all the cases of septic endocarditis occurring under the age of fourteen. They number forty-seven, of which four terminated in recovery. It would thus appear that septic endocarditis is rare in childhood. The following forms are recognized: (1) Primary; *rare*; (2) complication of septic disease; (3) complication of pneumonia or meningitis; (4) mixed infection due to pyogenic bacteria secondary to eruptive fevers, or secondary to rheumatic endocarditis.

Splenic Anemia.—The use of this term is now being objected to by many writers. As Morse has shown when anemia, splenic tumor and enlarged liver or lymph nodes are found associated in infancy, they are usually not dependent upon each other, but all depend upon a common cause—disorder of nutrition. The blood changes are not characteristic, the anemia is really secondary and not primary. The separation of certain definite forms of infantile anemia is there-

fore being gradually abandoned, inasmuch as it is being shown that the anemias of infancy are not forms *sui generis*, but merely types modified by the peculiar conditions obtaining at that time of life.

Interesting articles on the blood of normal children (which do not lend themselves to abstract here) have appeared in the *Archiv und Jahrbuch fuer Kinderheilkunde*.

Splenomegaly.—Marfan believes that in early life syphilis is the most frequent cause of chronic splenic hypertrophy, and this may, therefore, be used as an aid in the diagnosis of obscure cases of lues hereditaria. It should be remembered that the co-existence of splenomegaly and rickets does not permit, *per se*, the exclusion of hereditary syphilis from the diagnosis.

Lymphatic System. Enlarged Lymph Nodes.—Baer examined 350 infants—all ambulatory cases, and found *some* lymph glands enlarged in every case without exception. He questions the propriety of speaking of enlarged glands whenever they are palpable. Baer has also examined twenty-five infants varying in age from ten hours to five days. In all of these infants the axillary glands were palpable, sometimes markedly enlarged, and in some cases both cervical and inguinal glands were palpable.

Uro-Genital System. Post Impetiginous Nephritis.—Five cases of nephritis after impetigo have been reported—staphylo- and streptococci having been found in the skin. Nephritis from this cause is certainly rare.

General Diseases. Marasmus.—It has been shown by Stokes and Ruhrah that the thymus is always markedly affected in this disease. In autopsies on eighteen cases of marasmus the other organs showed comparatively little change, but the thymus showed thickening of the capsule and fibrous tissue, and atrophy of the lobules with disappearance of the lymphoid structure. Four patients with marasmus were fed thymus. Three of them died, however, while the other showed marked improvement. The authors believe that atrophy of the thymus is always found in infantile atrophy.

Rickets.—Neurath calls attention to a sign of rickets not previously described. This is the spindle-shaped appearance of the phalanges between the joints. It is not found in non-rachitic children. Roos describes cases of "rachitis tarda" diagnosticated by the x-ray in children of eleven to fifteen years of age. He suggests that many cases of scoliosis and genu valgum may in reality be cases of rachitis tarda.

ORTHOPEDICS.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

The visit of Lorenz to many American clinics revived an interest in a subject which is not so nearly settled as his enthusiastic followers would have us believe. The bloodless method is certainly in greatest favor, and all agree that it nearly always improves, though there is not a complete reduction; and Hoffa holds that even if there is a reduction, it is not likely to be permanent. Peder-son concludes, after 161 cases were tried, that nothing is rarer than a complete reposition; as also Kummel, who reduced only 11 out of 66 cases. The proportion of reductions vary with the operators: 12 out of 32 cases for Ridard, 1 out of 20 for Burghard; Nove-Josserand reports 25 reductions, 37 transpositions, 2 fractures, 3 relapses and 2 immovable heads. Lorenz, in 1899, reported that in 135 cases, only 79 were anatomically satisfactory, 56 being doubtful or incomplete results, and, besides, 22 cases which could not be reduced and 15 in which he knew dislocation had taken place backward. And the operation is not without danger, inasmuch as Lorenz reported some years ago ten fractures of the neck of the femur and one case of gangrene from obliteration of the femoral vessels; and there have been reported three deaths from chloroform in 360 cases, which is an exceptionally high rate. Lange has used the Lorenz method for reduction, but after operation uses the large plaster cast of Hoffa, which embraces the lower part of the thorax, and the femur is in full abduction for a year. There have been numerous contributions to the anatomy of the congenital hip deformities, most of which have been reviewed by Bradford. He endorses Schede's operation, in which an osteotomy is done below the neck of the trochanter in those cases where the anterior twist of the neck would favor a relapse. Whitman also advocates abduction and inward rotation of the thigh in most cases, carrying the plaster bandage below the flexed knee, and he does a subtrochanteric osteotomy in those cases where the neck is curved forward. Bradford later recommends that the osteotomy be done in the length of the shaft instead of immediately below the trochanter.

Both of these American authors also advocate the Hoffa open operation in cases that relapse, and in cases where there are indications that the bloodless method would not be a success. They both recommend that the leg be kept immovable for several months, which will lessen the chances of ankylosis, even when a new acetabulum be chiseled out.

Froelich has endorsed Keimisson's subtrochanteric osteotomies for double congenital hip dislocation in those cases which are too old to be reduced, and the danger of ankylosis, should the Hoffa operation be performed, prevents the open method.

The question of the etiology of true coxa vara is still variously discussed. Borchbard thinks it due to a series of small traumata, which produce minute fissures in the neck and allow it to flatten, while Yvemantt thinks it is a pure trophic disturbance, and Haedke concludes, from a careful macro- and microscopic examination of a bone from a seventeen-year-old child, that it was due to

late rickets, but that in the great majority of cases Kocher's "juvenile osteomalacia" is the best explanation.

In scoliosis much has been done to perfect apparatus for forcible correction of severe cases, which is the most satisfactory way; but, in the earlier forms, rest, massage and exercise are elected. The theories are still widely discordant, but some new observations are added without settling matters very much. Arnd succeeded experimentally in rabbits in producing a marked scoliosis by excising the erector spinal muscle on one side. Lovett has contributed again to our knowledge of torsion in lateral curvature. Schultheiss denies that the school is the only or even the principal cause of lateral curvature and round-shoulders, on the ground that a great many of them are well advanced before school age. Right-handedness and displacement of the pelvis toward the left, flattening of the bodies of the spines by the aorta, and the slight inclination of the spine toward the left, caused by this, all influence the form of the curvature. School investigations show an equal frequency in boys and girls; but, as age advances, the increase in girls is threefold and in boys only twofold. Sutter finds the same conditions, and adds that in boys the upper spine is more often deformed, while in girls the lower as often as the upper, and the deformity in boys is more marked than in girls.

Mouchel and Clement review the literature of congenital elevation of the scapula, and divide the 62 recorded cases into simple elevations, elevation with rotation, and elevation with bony changes and connecting links to the spine. Operative treatment (only recommended when there is a bony change) consists in dividing the trapezius and removal of the supero-internal angle, sliding the scapula down on the chest and retaining it there with plaster of Paris, the arm elevated to 180°. They believe in Guérin's theory of arrested development, as does also Lick, in whose two cases, beside bone deformities of the scapulæ, there were also incomplete closure of the vertebral column itself. Mohr, in considering double congenital elevation, of which eight cases are reported, thinks that Sprengel's theory of intrauterine pressure explains.

Tendon transplantation for paralytic deformities has been thoroughly tested, and has not been so superlatively successful as the early adherents would have made us believe, and the idea now is, as best put by Whitman: "The importance of reinforcing the comparatively ineffective operation of tendon transplantation by procedures to prevent deformity and lessen the strain on the weak muscles." The early successes described were undoubtedly due to the great apparent functional increase of the muscle after the improved attitude following correction of the deformity, but the positive functional gain due to transplantation itself is of small moment. Consequently, tendon transplantation is now regarded as merely one of a number of procedures used in correcting certain types of paralytic deformity. Arthrodesis is recommended as an adjunct, for instance, of the astragalo-navicular joint for valgus due to paralysis of tibialis anticus and the extensor hallucis tendon after division at the insertion is threaded into a hole drilled into the navicular, and is sutured to itself and the periosteum. It is pointed out, also, that the reason that some tendon cases do not do so well long after operation is because there is stretching at the point of splicing; so, direct insertion into a groove in the bone, or even a hole through the bone or directly beneath the periosteum, have been found the best methods, when possible. Lange recommends in case the tendon is too short for direct attachment to

bone, to lengthen the tendon with silk, which will last until tendon tissue is built up. He recommends a long fixation in plaster of three months or more, before the parts are used. Goldthwait considers tendon transplantation a recognized surgical procedure, which is no cure-all, but, in combination with other measures, nearly always improves the patient's gait and allows either a lighter brace or its complete discarding. The most successful cases were those where the sartorius or gracilis were made to do the work of the paralyzed quadriceps.

Tendon transplantation of the flexor tendons of the posterior part of the thigh into the quadriceps tendon for spastic paralysis has met with some success. Likewise, the transplantation of flexors of the forearm into the extensors in wrist-drop from cerebral palsy gives much improvement.

Springer advocates the lengthening of the tendon Achilles by the Z method of Beyer, in which the tendon is divided half through in front and a sufficient distance below on the back side, and then by a strong dorsal flexion a subcutaneous division takes place.

Seggel has studied exhaustively the repair of tendon wounds, and finds that after tenotomies, on the tenth day spindle cells appear in the blood clot that fills the sheath, on the thirtieth day tendon bundles are plentiful, and on the fiftieth day the climax of organization is reached.

Of the non-tubercular diseases of the joints, the chronic diseases, long loosely classed as arthritis deformans, rheumatoid arthritis or osteo-arthritis, have been better classified and more carefully studied by Goldthwait, and his views offer some escape from the hopeless confusion of former writers. Osteo-arthritis is defined as beginning in the cartilage, which is destroyed in the parts subjected to pressure while it is thickened and heaped up at the periphery. When the cartilage disappears from the bone, the underlying portion becomes worn away and eburnated, while the fringes at the margins of the joint are converted into bone, and the joint is an irregular solid enlargement, usually with distortion of the limb. Rheumatoid arthritis is, on the other hand, primarily of the soft parts of the joint, the bone is only secondarily and superficially involved, and the final result is limited motion or ankylosis without enlargement of the joint, and the process is spoken of as atrophic, to distinguish from the hypertrophic osteo-arthritis, and thus indicating that the two kinds of chronic joint disease are distinct. These changes are well shown in x-ray pictures. Goldthwait also classes Still's disease with rheumatoid arthritis and considers it not a distinct disease but of a variety due to various toxins. The great desideratum in treatment is a general building up of nutrition for both diseases, and in osteo-arthritis fixation in the active stage, particularly in spinal osteo-arthritis with the nerve pain down the sciatic and in back of leg. In rheumatoid arthritis the joint movement is encouraged as much as pain will allow and massage is used unless it increases the discomfort. In certain cases where osteophytes lock the joint or interfere with motion, either in foot, knee or elbow, it is recommended to operate and remove the pieces of overgrowth, and in the hip, *malum coxae senile* has been treated by excision. Schlenter, in an article on the whole field of chronic joint affection, holds to the old classification of chronic rheumatism, arthritis deformans with lime salts deposited with changes in cartilages and bones, and chronic vilious synovitis, in which latter condition he recommends operation.

In tuberculosis of the knee-joint Koenig figures on two or three years if conservative treatment is carried out, and he hopes for very little motion and the treatment is expensive. If excision is done, or the joint surfaces and infected bone facets removed, the joint is stiff and the limb short, but we can be practically sure of a quick result and the patient soon learns to get about with good use of the stiff limb. Hofmeister, however, shows the bad effects of resection in early life. There were no contractures in children over fourteen years when operated, but 45 per cent. of the younger ones showed serious contractions (130 or less). If the contractures come soon after operation they are usually in cases where the bone is pathologically softened in one or more places, and in those cases that come slower and extend over many years, come on at the physiologically weak neighborhood of the epiphyseal lines. The flexion is induced by the body weight and the pull of the flexors. It is advised in all cases before the eighth year to divide the flexors and attach them to the extensors. In speaking of the knee it would be well to mention an interesting paper on genu-varum and genu-valgum by Blanchard, in which he claims that the central point or apex of the deformity of typical bow-legs is in the upper tibial shaft, and here is the logical point for correction by the osteoclast. Occasionally the lower femoral shaft is the greatest deformed and in these cases the outer condyle appears to be lengthened, but in many cases studied by x-rays he failed to find a case where the condyles deviated from normal except in conformity to the altered direction of the lower femoral shaft. Another exception is where the outward curve is in the lower third of the tibia. In genu-valgum the majority of the cases show the apex of the curve from three to six centimeters from the head of the bone. Correction here is also at the apex of the curve and done with the osteoclast.

Roentgen rays have given us a great means of diagnosing and locating diseases of the bones, particularly in those cases where otherwise much question of doubt arises. Loedeck has shown the great service radiograms of the spine give in tubercular spondylitis, particularly in the cervical and lumbar regions, though not always so satisfactory in the dorsum on account of the heart and large vessels. It is necessary, however, to take many plates of each case. Beck differentiates osteomyelitis, osseous cyst, osteo-sarcoma and other lesions with skiagrams, and it can determine infectious conditions, not only the size and shape of the sequestra but also the extent of involvement far better than with a probe. Morgan contends that even the nature of the reduction in congenital hip dislocation can be determined by radiographs and enables one to follow the long period of after-treatment, but he cautions that false position of the limbs during the exposure may lead to erroneous interpretation. Gourdon draws attention to the discrepancy which may exist between the clinical findings and the appearance of the radiogram, and explains it by assuming that the hold on the pelvis is maintained in early life, not by a bony socket, but by tissue which is easily penetrated by x-rays. He warns not to judge the result of reduction maneuvers by radiogram alone.

Ludhoffs, in writing of the growth and structure of the lower femur and upper tibial epiphysis, studied by means of the x-ray, proves that some appearances, ordinarily considered pathological—*e. g.* protuberances on the condyle between two and four years, and the so-called dark spot on the epiphysis—are quite normal. The epiphyseal lines of the lower end of the femur and the upper end of the tibia remain till the age of fifteen. From two and one-half to eight years

a marked formation of bone is noticeable at these points. From seven to fifteen years the tubercle of the tibia develops rapidly. The middle of the condyles grows more rapidly from two to three and one-half years, the lateral parts in the fourth year, and after that an even growth of both parts. The middle of the condyles appears larger and has less thick, spongy bone than the lateral parts. These show stronger longitudinal trabeculae. There is a space in front where no vertical trabeculae are observed. During and after the third year this vertical structure becomes noticeable in the lower femur and upper tibial diaphysis. When both condyles become distinguishable bones, vertical and oblique trabeculae develop within the inter-condyloid notch. During and after the twenty-fifth year the first appearances of atrophy are seen in the femoral epiphyses.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

The progress of neurology during the year 1903 may be indicated by considering the following channels of publicity: 1. The reports of cases or collection of cases, including statistical studies of various kinds, relating mainly to questions of etiology of diseases and the results of therapy. 2. Studies relating to the anatomy, physiology and pathology of the central nervous system. Under this head will be considered the investigations relating to the nerve cell, the neuron concept and the various newer aspects of this and allied questions which improvements in microscopical technique bring about. 3. Studies which concern themselves with the newer methods of therapy, including under this head all the measures used to relieve or cure nervous symptoms, surgical, chemical, mechanical or psychical. In this division will be included a consideration of such advances in the means of diagnosis which render the recognition of disease easier and more certain. The discovery of new clinical characteristics which make possible an earlier or more definite diagnosis will find mention here. 4. Text-books and monographs which have either presented the mass of facts of neurology in an entirely novel way, or in a better way, or which have given something that up to this time has not existed in the literature.

A report of the year's progress of this nature will in all probability leave unnoticed many papers and many subjects which may be considered of prime importance, but in general it will show the trend of neurological thought in a far better way than a collection of abstracts.

Probably the most important paper under the first heading deals with the subject of *tabes dorsalis*, always a prolific source of publication. In each year it is noticed that the papers on this disease outnumber those in any other department of neurology. This paper, entitled "*Tabes in Asylum and Hospital Practice*," by F. W. Mott,¹ presents facts bearing upon *tabes* and general paralysis derived from the study of these two types of essentially the same disease as they occur in the hospital and in the asylum. This method of study gives an almost unique opportunity to observe the progress of the two conditions as they

really ought to be observed. Perhaps no more forcible plea for the unity of the two diseases has ever been advanced than this careful study, based upon 74 cases of tabes and a large number of cases of tabetic general paralysis, together with the post-mortem examination of thirty. The keynote of the whole investigation may be expressed in the idea of the author, that etiologically and pathogenetically there is one tabes which may begin in the brain (especially in certain regions) or in the spinal cord, in certain regions, or in the peripheral nervous structure connected with vision, or in the nervous structures connected with the viscera, different types, any of which may be present or be associated with one or all of the others. This paper can be said to contain the sum of all the positive knowledge that we have on the subject of tabes, elucidated in the light which the study, at first hand, of such an enormous material can throw upon it. Attention might be called in this place to the publication in which this paper finds a place. The reports from the laboratory of London county asylums, of which this is the second volume, contain some of the best work which has of late appeared in neurology. It is always of interest to note the fact that the same problem is occupying the attention of workers in various lands. This seems to point to the universal nature of the problem. Curioni² takes up the same subject as Mott and comes to the identical conclusion concerning the unity of tabes and dementia paralytica. The single case in the latter article, and the seventy-odd in the former, represent the same sort of proof, differing only in the mass of positive testimony. The French article, however, closes with a reference to the newest theory concerning the initial lesion of tabes. This is quite the most recent development of the subject and represents a rather unlooked for change from the theory that up to this time had received the most general acceptance in France. Thomas and Hauser believed that the fundamental lesion of tabes is a neuritis, presenting lesions comparable to those found in the course of a toxic inflammation of the nerves, and which presents as its most distinct peculiarity a marked election for the posterior nerve roots. Marie and Guillain³ in the paper referred to have concluded that the initial lesion of tabes is nothing else than a syphilitic lesion of the posterior lymphatic system of the spinal cord. In this connection an article by Orr⁴ is of great interest. This is a study on the course of the lymph stream in the spinal roots and cord. The author in his conclusion calls attention to the paper of Marie and Guillain and notes that two of his conclusions support their view. The conclusions are the following: Of the lymph flowing up the posterior roots the greater part passes into the posterior columns, while a small quantity flows into the lymphatic spaces of the pia-arachnoid, covering the posterior and lateral regions of the cord, and that where the fibers enter the cord, at which point their sheaths and neurilemma are lost, they are especially vulnerable to the influence of toxines in the lymphatic system of the roots and meninges. This applies to both motor and sensory nerves. This is certainly an interesting confirmation of what at first sight appears a somewhat fanciful theory. One of the most important papers, from a statistical point of view, that has appeared during the year, is Starr's,⁵ on the results of the surgical treatment of brain tumors. For some years past a paper of this kind has been eagerly looked for, because the older statistics did not include the results which the newer surgical procedure in the way of large flap operations had produced. An analysis of 365 operated cases is given. The conclusions, on the whole, are more favorable than would seem to be justified by the consideration of his

figures. Starr points out that the percentage of success is apt to grow larger in the next ten years, this will be due to factors: first, the better localization which is now possible, and, second, the greater latitude given to the surgeon and neurologist by the large bone flap. Starr's pessimistic view in regard to tumors of the cerebellum deserves wide publicity. Nine of his own operated cases were absolutely unsuccessful. He points out the fact that only one-tenth of the cerebellum is open to surgical attack, and it is precisely in this tenth that tumors are least likely to occur. He even goes so far as to say that operations are futile.

Apropos of the point raised on this subject in Starr's paper, an account of two successful cerebellar operations by Hudson is worthy of mention. One was a case of cerebellar cyst in the right lobe, on which two operations were done with ultimate recovery. In the second case the tumor was located well forward in the right lobe and successfully removed. Apparent recovery and death due to exhaustion from diarrhea on the eleventh day.

The question of primary bilateral degeneration of the motor tracts of the spinal cord giving rise to the condition of spinal spastic paralysis has ever since the first clinical description by Erb in 1875 given rise to much discussion. This difference of opinion has concerned itself with the two questions of the existence of such a condition and the justification of separately classifying it apart from the other conditions in which a spastic paralysis of a spinal type might be produced. Three papers have appeared this year which throw considerable light on the question, and which tend to support the claim for a separate classification as advanced by Erb. Mills and Spiller⁶ describe a case of progressively developing hemiplegia which later became triplegia resulting from a primary degeneration of the pyramidal tracts. The microscopical examination showed intense and long standing degeneration of the right crossed and the left direct pyramidal tracts, the degeneration extending into the pons but not into the left cerebral peduncle. Patrick⁷ touches further upon the subject by the report of two cases of chronic progressive hemiplegia, one of which he is inclined to believe would fit in with the case of Mills, while the other is to be classed as a paralysis agitans without tremor. Erb⁸ gives an account of the origin of the term spastic spinal paralysis as described by him and analyzes the cases thus far reported and the results of the autopsy findings in those cases which have been worked up. He comes to the conclusion that spastic spinal paralysis is a well characterized clinical type, with a definite anatomical foundation, and, therefore, should be given a place in the classification of nervous disease.

In the review of last year a prominent place was given to the researches of Ceni on the blood of epileptics and the curative effects of the serum which he was able to extract from it. Further work along the same lines has failed to strengthen Ceni's conclusions Sala and Rossi⁹ followed out the experiments of Ceni, using much greater care than he did. They conclude that: 1. In no case did the injection of epileptic blood serum exert a beneficial influence upon the course of the disease. 2. No toxic action or other symptom was observed. 3. There was no abnormal variation in the general metabolism of the body. The symptoms present rapidly yielded to the ordinary treatment.

The assertion of Bra,¹⁰ to the effect that in the blood of epileptics, just before and during the attack, an organism could be demonstrated, and that this organism was the specific cause of epilepsy, mention of which was made in the

review of last year, is made the subject of further investigation by Tirelli and Brossa.¹¹ They fail to confirm Bra's results, which in the nature of things might have been expected. It is true that they have seen in some instances small moving bodies, but they have concluded that they are the results of fragmentation of the morphological elements of the blood which occurs when the blood is being collected. This would seem to set at rest, for a time at least, a theory which has found few supporters, and which is not to be regarded as an evidence of progress in a subject, advance in which is to be hoped for more in the lines as set forth in the study of the hereditary factors or along the lines of Ceni's work. It should be noted here that Ceni has written in support of his original contention a second paper in which he attempts to bring his serum studies in direct relation to the newer blood work of Ehrlich. He assumes that the autoecytotoxin of the epileptic blood consists of two elements: (*a*) Cytose, alexin, sensitive substance or complement. (*b*) Antibody, intermediate body or sensibilizing substance. This is mentioned more as a matter of interest than as showing any advance in neurology. This sort of work shows very well the interdependence of various lines of investigations.

Spratling¹² considers the results which brain surgery has given in epilepsy, basing his observations on 33 operated cases. His results are sufficiently pessimistic to offer very little hope in the future for this procedure. It is to be noted that his material was the most favorable for surgical intervention, twenty out of the thirty-three cases being traumatic epilepsy. There was out of this whole number only one apparent recovery, and that single one was cured as a result of a gynecological operation. An excellent statistical study is that by Doran¹³ on the hereditary factors in epilepsy. An analysis of 1300 cases in the Craig colony showed 46.5 per cent. in which there was a heredity of alcohol or neuroses. A very timely paper on the prognosis and curability of epilepsy by Turner,¹⁴ based upon 366 cases, presents much that is interesting, the chief point of which is that the author regards 10.2 per cent. of epileptics curable. A cured case is regarded as one with a free period of at least nine years. This represents such a conservative estimate that it probably represents the truth.

Myasthenia gravis, to which considerable space was given in the 1902 review, has received but little attention this year. Diller's¹⁵ case of myasthenia complicated by angio-neurotic edema is of considerable interest, though on account of the lack of our knowledge of the pathology of both diseases no definite connection between them can be demonstrated. It is suggested, however, that the sympathetic system has been thought to be at fault in both these conditions. Kohn's¹⁶ report of a case occurring during pregnancy is worthy of note as possibly adding an additional proof to the toxic theory of the disease. A critical paper by Hey,¹⁷ a casuistical discussion of the whole subject, completes the year's contributions to the subject of myasthenia. This is certainly a meager array of papers on one of the most interesting subjects in neurology. A very suggestive point is contained in an article by Sutherland¹⁸ on chorea and Graves' disease. The author believes that the two diseases are somewhat similar affections of the central nervous system, and that in childhood it produces the symptom known as chorea, while in early adult life it is manifested by that known as Graves' disease. That chorea is still to be regarded as one of the neuroses is shown by the report of an autopsy in a case by Kopezynski,¹⁹ in which, beyond some slight chromatolysis, the findings were negative. This appears strange when the fact

is considered that the combination of chorea and other inflammatory conditions is common enough. Such a case is reported by Hohfeld,²⁰ in which erythema multiforme, chorea, endo- and pericarditis were present in the same individual.

It is certainly difficult to reconcile the negative findings on the one hand and the positive etiological factors on the other. It is very likely that our conception of chorea is soon to undergo a change, chiefly in the recognition of a distinction between a chorea as a pure neurosis and a chorea incident to or caused by the same organism which plays a part in the causation of rheumatism and the allied conditions. Mettler's²¹ paper on the relationship between syphilis and chorea is purely a matter of interest. Hysteria, the subject of so much discussion, and so many papers presents little that is new this year. A discussion by Charpentier²² on Bernheim's adoption of Babinski's attempt to give a new definition of hysteria contains all the data necessary to understand the points at issue. The tendency to make of hysteria a polemical question is to be regretted. This is especially to be observed among the French writers. It is quite clear that a definition based upon symptoms is all that we can hope for just at present and that no satisfactory conception of hysteria can be hoped for until the understanding of the fundamental causes of the disease is a great deal clearer than it is at present. There is a very remarkable observation of Nonne's²³ on the absence of knee-jerk in hysteria. He describes two cases which were under his observation for a long time, there can be no question as to the accuracy of facts noted. This seems to destroy one more of the classical differentiating points between organic lesions and hysteria. It should be noted that Nonne believes that the absence of the patellar reflex is due to the hysteria and not to some intercurrent cause. The efforts which Raymond and Janet are making in differentiating a certain symptom-complex which they call psychasthenia from hysteria will be watched with great interest. Their recent paper on spasms and tremblings in this condition is not at all convincing. It is to be questioned whether at present too fine a system of classification is advantageous. A paper by Westphal on hysterical "Daemmerzustand" and the symptom of "Vorbeirredens" is here noted because of the interest which of late has been directed to this phenomenon. It consists in the incorrect answers given by a patient to the most simple questions, though such questions are correctly understood by him. Its relation to katatonic negativismus has been brought out. It is certainly a suggestive point, this common symptom in such widely separated conditions as dementia precox and hysteria. The usual number of papers on neurasthenia could be chronicled, but there is nothing that can be said to show any distinct advance. A somewhat unusual aspect of the subject is shown by Cappelletti, who writes on infantile neurasthenia. It has been more or less believed that neurasthenia does not exist in infants or very young children. Two cases are here described: a girl aged eleven, and a boy of twelve. This part of the present review might well be closed by reference to a number of clinical papers which are of importance owing to the rarity of the cases described and to their atypical character, which tends to broaden our knowledge of them. Launiois and P. Roy²⁴ give an account of the autopsy findings in an acromegalic giant. Collier²⁵ describes the relative affection of the muscles in progressive bulbar paralysis. Collins²⁶ report of nine cases of Friedrich's disease is an unusually illuminating clinical paper. Macintosh²⁷ notes the mode of onset in eighty cases of multiple sclerosis; Bramwell²⁸ the relative frequency of disseminated sclerosis in Scot-

land and the north of England and in America. These two papers add considerably to our knowledge of this subject. Muscular atrophy, the subject of so much controversy, has received a number of important additions to the already extensive literature. A case of Erb's juvenile dystrophy with bilateral enlargement of the parotid and submaxillary glands, reported by Clarke;²² vasomotor muscular atrophy, by Luzzatto,²³ and a case of progressive atrophy with sensory symptoms, by Launois and Parat,²⁴ represent variations of the normal type which are of the greatest importance.

No attempt will be made in this review to give an adequate idea of the progress of the anatomy, physiology or the pathology of the nervous system. The amount of work is too enormous to do more than refer in brief to one or two articles which, in a way, have a certain clinical importance. The chief anatomical question which at present interests neurologists is the correctness of the theory of the continuity of the nervous structure. The effect on our present conceptions of many problems of neurology, if Bethe's theories are correct, is altogether a matter of conjecture; therefore a brief reference to the recent discussion on the truth of Bethe's recent experiments might be of interest. Bethe's experiments on rabbits and dogs, from which he asserts that the autogenetic regeneration of the peripheral nerves is proven, has occasioned considerable discussion and criticism. Muenzner²⁵ published a record of his experiments on rabbits in which, following the procedures of Bethe, he was unable to obtain the same results. He calls attention to the fact that Bethe did not take into account sufficiently the presence of young nerve fibers at the seat of section, and he considers that these might arise from the central as well as from the peripheral stump. He further states that the muscular contractions obtained in the muscle supplied by the peripherally lying nerves are not positive proofs that a nerve severed from its cell can and does regenerate. Bethe²⁶ replies to this in his characteristic way, pointing out the failure in technique of Muenzner's experiments and the lack of error in his own. It is clear from these two papers alone that there is much that still remains unproven in Bethe's conception of the anatomic continuity of the nervous system. However, it is also true that the idea of the neurofibrillæ as the important element in the nervous structure—modified in some ways, it is true—is gradually gaining ground. Flechsig²⁷ gives the results of the study of six more brains in regard to the myelinsation of the cortex. He has in this way studied fifty-two brains, and although he has somewhat modified the original areas as marked out on the cortex in his early work, the fundamental facts remain unchanged. In this paper he brings his results up to date. Turner²⁸ gives the results of his studies on the nerve cell changes in thirty cases of insanity with especial reference to those of the spinal ganglia. This is a very good example of the better sort of work on the pathology of the nervous system. This paper is to be regarded as worthy of mention in an account of the year's progress, because it not only adds data to our knowledge, but it presents in a clear way an account of the changes in the nerve cell which may be regarded as indicative of pathological changes. Two articles on the pathology of multiple sclerosis^{29, 30} merit attention for the reason that they definitely prove the single known fact in the pathology of this disease, that fact being the non-involvement in the process, whatever it may be, of the axis cylinder, and for that reason the absence of secondary degeneration.

The advances which have been made in the means of diagnosis are mainly due to the work of the French investigators on the cerebro-spinal fluid. The correctness and the applicability of these experiments are still somewhat a matter of dispute, and although at the present time it cannot be definitely said just where the truth lies, yet it is very apparent that the diagnostic side of neurology has been greatly strengthened by the investigations on this subject. The examination of the cerebro-spinal fluid for certain chronic conditions, especially for tabes and dementia paralytica, is not a recent discovery, but it is only in the last year that the work of the French neurologists in this direction has received the attention that it merits. The first reference to work of this nature done in the German clinics has appeared this year; the same is true of America. At a meeting of the *Société Médicale des Hôpitaux*, in January, 1901, the first reference to the presence of a lymphocytosis in the spinal fluid taken from cases of tabes and dementia paralytica was made by Monod, Widal, Sicard and Ravaut.

A few months later this observation was confirmed by Babinski and Nageotte, who reported that twenty-five out of twenty-six tabes showed a positive lymphocytosis. It is of interest to note that the only evidence of tabes in four of these cases was the Argyle Robertson pupil. Ever since that time reports have appeared either affirming or denying the truth of the original observation. In the year just passed discussion at a lively rate on the subject of the spinal fluid has gone on among the French neurologists. The weight of evidence apparently lies on the side of those who hold the original contention to be true. Armand-Delille and Camus³⁸ examined thirteen tabetics in the service of Dejerine, and found in only four a positive lymphocytosis. They followed the technique of Widal. The tabes in this series of cases existed from four to forty-two years, so that here the time element cannot play a very important part. They conclude that the examination of the cerebro-spinal fluid in this class of cases cannot be considered an important element in diagnosis or prognosis. Widal, Sicard and Ravaut³⁹ answer this by giving in great detail the various steps of their procedure, the chief elements of which are absolute cleanliness, great care in centrifugalizing and decanting of the fluid obtained and in the preparation and staining of the slides. In support of their original contention, they give the results of the examination of thirty-seven cases of tabes studied anew for the purpose of this discussion. In all of these cases with one exception a definite lymphocytosis was found. The average number of lymphocytes found in one oil emersion field was from six to ten. The paper is full of interesting data upon the interpretation of the findings, the record of past experiences on this subject, and the various lines of inquiry which have been opened up since the discovery was made. The authors do not consider the lymphocytosis a specific element in tabes or dementia paralytica, but its presence indicates, or, rather, is an evidence of, a simple irritative process. It is not found in tuberculosis, but is found in specific myelitis or meningo-myelitis. If it should be present in a hemiplegia the chances are that the process is syphilitic in nature. In the ordinary hemiplegias the spinal fluid is persistently negative. In cases of old syphilis presenting neither specific lesions or nervous symptoms the fluid in general is found to be negative. If in this class of cases the examination of the fluid is found to be positive, then a very careful examination for some evidence of a nervous process is indicated. An interesting observation relates to the negative finding in a case of cerebral tumor in which there were no evi-

dences of meningeal involvement, as contrasted with the positive finding in a case where there were symptoms pointing to an involvement of the meninges. Many other cases of various nervous affections were examined, with the result that where there was no evidence of meningeal irritation present there was no positive lymphocytosis found. In a series of acute infectious diseases, including tuberculosis, typhoid, etc., a constant negative finding was observed. The substance of this paper can be summed up in the statement that lymphocytosis of the cerebro-spinal fluid points to a meningeal process in the course of chronic diseases. An interesting confirmation of this work from an American source, and probably the first to be published here, is contained in an article by Kramer.¹⁰ In twenty-nine cases of insanity, eleven of which were dementia paralytica, thirteen dementia precox, a positive finding was observed only in the cases of dementia paralytica. The author believes that this is a most valuable diagnostic procedure, and that by it a dementia paralytica can be diagnosed long before the characteristic mental symptoms have developed. Along the same lines Guillain and Parant¹¹ find that there is present in the spinal fluid of general paralytics a pathological condition of the coagulability of the albumen. In a normal fluid, or in the fluid of other conditions, when the cloud of albumen caused by boiling is precipitated by a sat. solution of $MgSO_4$, and the fluid filtered, no additional cloudiness is caused by boiling the liquid anew. In dementia paralytics, boiling this filtrate results in a renewal of the cloudiness. Schonborn¹² gives a very clear summary of the work already done in the subject and calls attention of the German investigators to the great value of the test. His own investigations, carried out in Erb's clinic, confirms in all details the correctness of the results of the authors just quoted. There can be no question that a remarkable advance in methods of diagnosis has been discovered as a result of all this work. The full value of it can only be known when the procedure is used as a routine measure in all the large clinics of the world. Further investigations along these lines may show that the meninges possess an importance in various nervous diseases hitherto unthought of. If the study of the spinal fluid can give us at all times data on the condition of the state of the meninges, as the discoverers of this reaction assert, then our means of understanding nervous diseases are much augmented. These studies point with no uncertain finger to the important role which the meninges play in tabes, a point long since advocated by Nageotte, whose observations on the pathology of this disease have not received the attention they deserve. A number of papers on reflexes, chiefly relating to the Babinski reflex, have appeared during the year. This reflex has now become so firmly established as an important aid to diagnosis that further work on it is apt to have only a statistical interest. A great many so-called new reflexes have been discovered, but most of them have at present merely a physiological interest. The progress in therapeutics, using its broadest sense, may be indicated by the mention of the growing importance which all so-called physiological methods of treatment have taken in neurology. In the review of last year mention was made of the salt starvation treatment of epilepsy and the importance of that method was indicated. It is a matter of great satisfaction to note the continued progress in this method which the papers of this year indicate. A further advance in the technique of the method is Balint's ingenious device of a saltless bread. This bread is baked without salt in such a way that to every four hundred grams of bread one gram of NaBr is

added. It is to be hoped that this bread, called by him Bromopan, will soon be in the market so that the chief difficulty in carrying out this method in private practice may be removed. Many papers have appeared this year telling of the testing of this method under various conditions. Without an exception the results have been very encouraging. It certainly represents the greatest advance in the therapeutics of epilepsy that has been made since the discovery of the efficacy of the bromides. Among the countless numbers of new therapeutic preparations that have appeared during the year, one stands out as being unusually of value and that is the latest hypnotic called veronal. A numerous literature has sprung up on the advantages of this drug. Its chief advantage over the others is that it may be given in small doses and that it has no bad after-effects. Like all hypnotics, however, its habitual use causes a tolerance. The special advantage which is not shared by any other hypnotic to the same degree, is its effect in small doses on the most varied states of mental excitement. It can be used for long periods of time in mania, melancholia, acute alcoholism with the satisfactory effect.

A review of a year's progress would not be complete without some reference to the more permanent additions to the literature of neurology, which can be seen from the various text-books and monographs. Nissl's monograph on the Neuron Theory (*Die Neuronlehre*) is the most considerable contribution to this subject that has appeared in years. Since Nissl has allied himself to the opponents of the neuron concept an authoritative statement from him has been eagerly awaited. In this extensive work not only are his own views stated, but the whole subject is given a most searching analysis. The various contributions of the neuron concept school are here presented and then exposed to the most merciless criticism. Nissl is a master at this sort of thing, and the impression that remains after reading this book is one very unfavorable to the correctness of the neuron theory. It can be said with justice that this is the most interesting work of the year. Its permanency is, however, less certain, as a work of this sort has only a value as long as the subject is in its formative stage. Bethe's *Anatomy of the Nervous System* (*Allgemeine Anatomie und Physiologie des Central Nerven Systems*) is scarcely of less importance than the work of Nissl. It contains an account of the author's latest researches on the neuro-fibrillæ and a description of his technique, by which his results have been obtained. A description of his researches in physiology, in which he has attempted to supplement the facts that his anatomical studies have shown, is of the greatest value and interest. His book also contains a criticism of the neuron theory, but Bethe lacks the dialectic skill of Nissl, and, therefore, this part of his book is less convincing. It is with pleasure that it is possible to notice the work of an American neurologist among the contributions of the year that gives promise of becoming a permanent addition to the literature of neurology. The text-book on organic nervous diseases by M. Allen Starr has been mentioned in the book review department of this journal, and it is here mentioned again merely to indicate that it deserves a place in an account of a year's progress. Flatau, Jacobsohn and Minor have given to neurologists the first satisfactory treatise on the pathology of the nervous system in their very meritorious handbook (*Handbuch der Pathologische Anatomie des Nerven Systems*). Workers in neuropathology the world over will acknowledge their indebtedness to the authors of this splendid production. A reference might be made here to a new journal which has

made its appearance this year. The *Review of Neurology and Psychiatry* is an English monthly journal patterned after the German *Centralblatt*, with the added advantage of prompter abstracting and a more just appreciation of the contributions of American and English writers. Such a journal has long been awaited, and its appearance deserves mention.

It can be seen from the work that has been noticed in this review, and such a review must necessarily be incomplete, that our knowledge of neurology has been materially increased by the earnest efforts of many workers the world over. The one fact that can be gained by a consideration of this mass of human endeavor is the increasing breadth of view which has inspired the minds that have been active in the attempt to add something to the knowledge of diseases of the nervous system.

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GENITO-URINARY SURGERY

IN CHARGE OF

H. MCC. JOHNSON, M. D.

Surgery of the prostate during the past year has, perhaps, approached its proper level more than in any year previous. We have seen the gradual change from the suprapubic to the perineal route, and now it seems that the contention lies between the choice of perineal operations.

Rydygier, noticing that it was impossible to avoid opening the prostatic urethra in doing the ordinary perineal prostatectomy, proceeded to work out a new method. Instead of enucleating each lobe entirely, he freed it from all of its attachments except that near the urethra, thus leaving both lobes attached as if by a pedicle. This he clamped by a long pair of forceps at a little distance from the urethra, and parallel to it, in order to avoid, if possible, the ejaculatory duct. The lobes were then cut off close to the forceps and removed. He does not open the urethra, but expects the removal of the lobes to relieve its

cramped condition. Young, in carrying this idea a little further, after dissecting the rectum away from the urethra, opens the urethra and inserts into the bladder a tractor of his own design, which enables him to draw the prostate into good view. He now incises the prostate to the depth of one centimeter on each side of the urethra, to preserve the ejaculatory ducts from the danger of tearing during the process of enucleation. The tractor aids in locating the urethra.

Young attempts by his operation to preserve a man's sexual power, which he considers of much advantage, especially as many of his cases come for operation while still comparatively young. The small bit of the prostate left may furnish sufficient secretion to vivify the spermatozoa.

Both Lydston and Young have devised tractors which are introduced closed into the bladder through the membranous urethra, and afterwards opened for the purpose of pulling the prostate into view.

The matter of incision into the perineum for prostatectomy has returned to the old-time median incision, with the exception of cases where much room is needed, and then the inverted V-incision down to the muscles may be used, the inverted Y and curved incisions having become rather unpopular.

The excellent results Wainwright obtained from a purse string suture for wound of the rectum done while separating the latter from the urethra, will reassure the timid in this operation. He uses a pre-vesical incision into the bladder without opening it, as a help in doing perineal prostatectomy.

The indication for operation on the prostate has reached a happy mean between the two extremes of operating on every prostate and not operating at all, and lies in the maxim that operation should be done whenever palliative treatment begins to be inadequate. Where it is feasible, prostatectomy is the choice of operations, but as this operation can be properly offered to those patients only whose general condition makes them fair surgical risks (Thorndyke, Herrick), its usefulness is limited.

We have heard less lately of the Bottini operation than we did in 1902. It seems to have descended from the little spurt it took, and to have been relegated to the position of a more or less palliative method. It is a significant fact that articles which during the past year have appeared upon the operative treatment of prostatic hypertrophy have had little mention of the Bottini operation in the headlines.

Thorndyke says the operation can be fairly offered as one attended with little risk of life, a short convalescence, and a good prospect of such a degree of improvement as will at least do away with any further necessity for the systematic use of the catheter. Instead of the Bottini operation for those cases that are not good surgical risks for prostatectomy, the suggestion of Smith to do a simple external urethrotomy with drainage through the perineal incision, under local anesthesia, is perhaps preferable until such time as the patient may be in a better condition for operation. Indeed, drainage of the bladder in this way, or suprapubically (Bryson), for a time preliminary to prostatectomy, is quite an advance in the way of handling these cases.

As a means of curing prostatic hypertrophy we have heard very little during 1903 of what are known as the sexual operations; in fact, it is generally conceded that such operations do nothing more than palliate. It has been demonstrated clinically and experimentally, however, that there is a certain reflex action upon the urinary apparatus from these operations, and it has been shown

quite conclusively that this action is expressed in a reflex diminution in the tone of the vesical sphincter, thus relieving the sphincteric spasm influences (Was-siliess).

The hypothesis that posterior urethritis of whatever cause is the underlying etiology of prostatic hypertrophy seems to be gaining advocates. Crandon says that the causative factor is found in slow formation of new connective tissue due to infection, or to infection aggravating a senile degenerative process, and that the gonococcus is probably most often that specific infection.

Operation for cancer of the prostate has been strongly brought forward by Oraison in France, and later by Greene in this country; and while neither adds much to our knowledge for early diagnostic purposes, and both admit the difficulties surrounding them, yet Oraison demonstrates the feasibility of operation before the malignant process has passed the limits of its capsule. He calls attention to the fact that cancer of the prostate, especially in the circumscribed form, is much less rare than has been thought, and urges that while an early diagnosis may be impossible, we may anticipate cancerous degeneration by attacking those cases of hypertrophy which are doubtful and which give symptoms sufficiently painful to warrant intervention.

The operative procedure of making an anastomosis between the vas deferens and the head of the epididymis, which Martin carried out in one case, deserves attention. For obstruction in the tail of the epididymis this anastomosis in his case served to open the way for spermatozoa to reach the ovule. Thorndyke reports a number of cases of varicocele which were cured by ligating the vessels in the inguinal canal. While many of us may not be tempted to emulate the example of Zabłudowski in his massage of the testicles and their adnexa, his exposition of his method for maladies of the sexual apparatus in the *Ann. des Mal. des Org. Urin.* is full of interest.

The treatment of stricture of the urethra by electrolysis has claimed the attention of surgeons at intervals, and no one has placed it more in its proper sphere than Moran, who says that electrolysis does not produce a radical and definite cure of the stricture, but is, indeed, a simple, easy, painless and almost bloodless method of enlarging certain strictures, but does not take the place of subsequent dilation to prevent recontraction. The fact that in its application there is an absence of pain, hemorrhage, lying in bed, of the catheter *a-demeure* and of grave complications, will tend to cause linear electrolysis to supplant internal urethrotomy.

Bartrina calls attention to the marked advantage to be gained from external massage of the urethra to facilitate the absorption of the inflammatory product about chronic conditions of that organ. For those disagreeable and usually persistent paraurethral abscesses, Heidingsfeld has employed with good results the injection of a minim, or more, of trikresol into the center of the abscess, with slight reaction and a rapid disappearance of the condition.

Gibson's method of transfixing the prostate laterally from the rectum with a sharp hook in order to make gentle tugs downward on the prostate so as to cause intermittent traction of the urethra in response to the traction on the prostate, which transmits to the finger in the perineum the sensation of tension, thus locating the urethra, will hardly take the place of the older method of a finger in the rectum on the membranous urethra as a means of locating it while doing external urethrotomy without a guide.

After numerous investigations, Monroe throws considerable light upon the lack of danger in operating upon cases of albumin and casts in the urine simply, without systemic evidences of kidney disease, but says the presence of albumin and casts should be a warning to us to be on the lookout for other and more significant signs of organic degeneration, which may prove a serious obstacle to operation or satisfactory convalescence.

The interesting study of the laws which preside over the formation of the sexes is admirably considered by Guiard. After a brief consideration of the principal theories that have had public favor, Guiard leans to that of Thury: that the child will be a female if impregnation takes place before the ovule has reached a certain degree of maturity; a male when it has passed this degree of maturity. So that to beget a female intercourse should be three or four days before the menstruation, whereas, to beget a male intercourse should be three or four days after its cessation.

The mooted question of when and how to properly teach a boy concerning sexual relations is discussed by Valentine, who has written a pamphlet upon the subject for distribution.

As a routine practice, the French seem to have decided in favor of segregation in preference to ureteral catheterization, the instrument of Luys and Cathelin giving marked satisfaction (Rheume). Cathelin has improved his instruments, and now furnishes three sizes of membranes for bladders of different capacities. Bryson lays great stress upon the use of the cystoscope in conjunction with the segregator, and says it is of much value in differentiating the bladder condition from reno-ureteral inflammations.

Cathelin's application of epidural injections through puncture of the sacral canal for the treatment of nocturnal incontinence of urine, seems to promise something to those cases which resist other treatment. Indeed, Valentine says that epidural injections with deci-normal salt solution offer the most promising results in abnormalities of urination due to faulty vesicle innervation: that the operation properly performed is in nowise dangerous, is generally not even disagreeable and is easily performed.

Garceau collects sixteen cases of total nephro-ureterectomy with one death only, the results being most excellent, and suggests that, in view of these favorable results, total or partial ureterectomy will in the future be more commonly done for tubercular conditions than in the past. Robinson's excellent article on landmarks in the ureter deserves commendation, not only for the immense amount of work he has spent upon the subject, but also for his demonstration of the different constrictions and dilations which the ureter normally contains. Smith shows that a suture passed through the entire wall of the ureter will stand much more traction than if only the muscles are included, and that the danger of calculous formation about such a suture is theoretical rather than practical. In experimenting upon dogs he demonstrates that after a successful uretero-cystostomy there is, within a certain time, in nearly all cases, some degree of interstitial nephritis set up. He looks for a cause for this in the severing of the vessel and nerve supply to the ureter rather than traction upon it.

It seems that catheterization of the ureters is not entirely innocuous, for out of forty-two cases reported by Keefe, in which subsequent examination of the urine was made, in three cases only was there no change in the urinary constituents. In some cases transient blood and albumin, in others hyaline and

granular casts were found, the patient showing no other evidence of kidney disturbance than that shown from examination of the urine. He is led, however, to believe that with care in the passage of ureteral catheter no injury to the patient is likely to ensue.

That bladder infections are not always due to bacteria carried into it from without has been brought forcibly into prominence by Janet, who divides infections into those of internal and those of external origin, and emphasizes the difficulty we encounter in finding the primary focus of internal infections. Internal infections of the bladder may occur in two ways: through the immediate proximity of a normal organ to a pathogenic one, and secondly, through the mediation of the general circulation. Catheterism of the ureters furnishes the best means of diagnosing bacterial infection of the upper urinary apparatus, but Janet considers this a dangerous procedure, for the bladder cannot be disinfected, and the healthy ureter is thus exposed to contamination. In order to avoid this danger, it is recommended to compare the number of bacteria through culture in the urine which collects in the bladder after it has been thoroughly washed out, with that drawn from the bladder before the washing. We distinctly know that bacteria from certain grave infectious diseases are eliminated through the urine, and it is equally admissible that bacteria from infections of lesser importance, and more localized, are eliminated through the urine also; among these may be mentioned entero-colitis, which must be relieved before the bacteriuria will clear up.

Out of five hundred consecutive autopsies Greene and Brooks found that one hundred and seven showed marked bladder lesions. From their examinations they find that the most frequent cause of diseases of the bladder are lesions of the central nervous system, and that the processes which cause hypertrophy of the bladder wall are inflammatory infiltration, increase of fibrous connective tissue, smooth muscle hyperplasia and infiltration by new growth, the clinical symptoms depending upon which of these factors predominate.

Very little seems to have been written upon the microscopic appearance of the bladder walls in recent acute cystitis. From the study of fourteen bladders with acute inflammation, Motz and Denis demonstrate that in acute cystitis of medium intensity the epithelium is not altered, that the embryonic infiltration is great, but that the inflammatory lesions invade only the mucosa and sub-mucosa, without ever attacking the muscular layers, that the muscle becomes hypertrophied only if the cystitis has lasted a certain length of time. Among the curious things which are abstracted from the bladder, Guisy reports a three months-old babe.

Motz calls attention to the rarity of primary vesical tuberculosis, saying that the bladder lesions are almost always of renal or genital origin. If there is a unilateral tuberculous nephritis, this source of constant reinfection of the bladder should be removed at once, for we know a vesical lesion, even very grave, is not a contraindication of nephrectomy, but is even susceptible of cure, while we do not know of a cure of a tuberculous nephritis clinically diagnosed.

Urotropin, which is relied on so extensively as a urinary antiseptic, is a subject of investigation by Coleman, who lauds its antiseptic qualities, but doubts its efficacy as a uric acid solvent. He finds that its administration is rarely attended by toxic effects, and believes that this toxic action is due to improper dilution of the drug, or to the susceptibility of the patient. Among the toxic

effects he mentions irritation of the stomach, diarrhea, abdominal pains, measles-like rash, headache and ringing in the ears, renal irritation—sometimes with albuminuria, irritation of the bladder, hematuria and hemoglobinuria. However, these toxic symptoms disappear within a few days after the withdrawal of the drug.

In spite of the fact that Johnson, in experimenting on dogs, says that ultimately a fibrous investment forms about the organ after kidney decapsulation, and in none of the cases in which he removed the capsule was there later any considerable anastomosis between the renal and peri-renal blood channels, yet favorable reports from Edebohls' operation continue to appear. Whitacre reports a case which resisted the ordinary treatment of uremia for eight days, but after complete capsectomy began to secrete urine and made a satisfactory recovery. Edebohls stopped the convulsions of puerperal eclampsia in a primipara by kidney decapsulation, which rapidly restored her to complete health. He suggests its use in eclampsia of renal origin where, otherwise, it would be necessary to produce abortion. In a further report he says that out of eighty-one cases operated upon, twenty-two patients are in various stages of satisfactory improvement, nine having remained cured after an average duration of over four years. Ferguson claims priority in recommending surgical treatment for Bright's disease, but credits Edebohls with having worked out the surgical treatment and having promulgated it. He obtained most excellent and astonishingly prompt improvement after decapsulation in two cases of parenchymatous nephritis. While he believes the macular inspection of a kidney as it lies pulled through the wound before the surgeon is of great service in recognizing the state of the kidney, yet the only scientific procedure to pursue to obtain anything like an accurate knowledge of the condition of the kidney under operation is to remove a V-shaped piece of the cortical and pyramidal tissues, and study it microscopically. Believing the immediate good comes from the relief of the tension and the permanent benefit from the establishment of a collateral circulation, he concludes that the operation is practical and effectual, but by no means a panacea for Bright's disease. Two out of the five cases which Blake reports are practically well, one unrelieved, and two died from the operation. Henry's case, in which the patient (although he seemed a good subject for capsectomy) died eight days later without an increase of urine, is not encouraging. Tyson reports a case of advanced nephritis in which medical treatment failed to relieve, but decapsulation of one kidney brought about relief of ascites and anasarca. Two months later the other kidney was decapsulated. After this operation albumin and casts decreased in quantity, and the patient later looked the picture of health. The author is satisfied that the operation is a serviceable one, that many lives may be saved and prolonged, and that even cures may be obtained by its judicious application.

After Edebohls' operation of kidney decapsulation there seems to be quite a response by an increase in the amount of urine and a general improvement in the symptoms of the patient. In view of the fact that a new fibrous capsule appears to take the place of that one which has been removed, it is doubtful whether this new capsule does not contract later sufficiently to interfere with the function of the kidney, and thus subvert the intention of the operation.

Goelet considers prolapse of the kidney to what he terms the third degree—that is, when its upper pole is palpable beneath the last rib—as an indication of

nephropexy. In this position the kidney cannot be properly supported by any kind of bandage or corset. Then, too, prolapse of the kidney may initiate degeneration of the kidney itself, or, through obstructive congestion, cause disease of the female pelvic organs.

Brown reports two cases of movable right kidney which caused glycosuria by pulling upon the pancreas. The sugar disappeared from the urine after successful nephropexy.

Bryson speaks quite extensively of the phloridzin test and cryoscopy. The phloridzin test is not difficult of application and is a very delicate and valuable one for investigation of the functional capacity of the kidney: that urino-cryoscopy in connection with the hemato-cryoscopy is of distinct value in association of the separation of the urines, but these tests should be regarded only as aids to the diagnosis and as in no way taking the place of well-established means of clinical reckoning.

Finker found that cryoscopy of the blood of patients whose kidneys were normal gave surprisingly uniform results, and in those cases where there was a pathological state of the kidney it gave a good estimate of its functional capacity, while cryoscopy of the separated urines from each kidney gave valuable information as to their respective condition. The method has a limited field of usefulness, but is of decided value in cases in which its use is indicated.

Verhoogan obtains definite results from radiography in kidney and ureteral calculi, but the success of the picture depends upon the care with which the exposure is made. It should be sufficiently long to penetrate the thick lumbar tissues, but not so long as to penetrate also the calculous substance and thus efface its shadow. The subject of calculous anuria is treated most excellently in an article by Cabot. He relates a case in which he was able to dislodge a stone from the ureter and force it on to the bladder by external manipulations, and calls attention to the advantage of stripping the ureter after a nephrotomy in order to dislodge stones from it.

According to Thompson there seems to be an internal secretion of the kidneys which prevents undue waste of the nitrogenous tissues of the body, and this characteristic is especially noticeable in the uremia which follows a sudden complete obstruction of the ureters, the symptoms being different from those which we commonly recognize in uremia from kidney disease. In the former there is increased weakness, with twitchings—the subject dying of pure asthenia. Indeed, the uremic symptoms in chronic parenchymatous nephritis and interstitial nephritis are quite different in kind. As the blood supply to the kidneys is terminal in character, we can expect benefit to come from Edebohls' operation, which allows a new blood supply to the kidney to help absorb the inflammatory exudates in chronic parenchymatous nephritis.

Ohlmacher reports four cases of adrenal tumor of the kidney, and says since the true nature of these adrenal growths of the kidney has been elucidated it is far from permissible to call hypernephroma a rare form of renal tumor.

Croftin finds that administration of the calcium salts, especially calcium carbonate, in fifteen to twenty-grain doses, or more, three times a day continuously, very efficacious in uratic nephrolithiasis.

While favorable results are being reported from Edebohls' operations, it is not of little interest to observe Planer's reported case in which the excision of a strip of peritoneum from each side of an abdominal incision resulted in the cure of a patient, whose spleen, kidneys and liver were enlarged and the body edematous.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

There is no subject, at present, of such importance to those interested in the treatment of diseases of the skin as that of light. In every issue of the journals devoted to dermatology, light in its various forms occupies a prominent position. Much scientific and experimental study is being expended upon its artificial production; its effect upon pathologic and normal tissue and the various therapeutic indications emanating from the practical application of the result of observation upon these two divisions of the subject.

The discussion of the light phenomena may be divided for such a review as we are writing into three subdivisions: (1) The Becquerel rays, (2) The x-rays, (3) The Finsen light, so called.

1. *Becquerel Rays*.—In 1896 M. Becquerel, a Frenchman, made the discovery that uranium and its salts were capable of giving off rays. From "Pitchblende," the ore of uranium, M. Currie and his wife separated two radioactive substances which they name radium and polonium, while M. Debiérne, later, isolated a third radioactive substance, actinium. The rays from these bodies have the power of penetration similar to x-rays and are called radioactive bodies. Aschkinass and Caspari compare these rays with the x-rays and light rays and conclude that they, like the former, exercise an inhibiting action upon tissue growth. They claim that radium emits two kinds of rays—rays which have little penetrating power which are absorbed, and those of great penetration which are not absorbed. The former have a marked bactericidal power while the latter have none.

Walkhoff and Gisel studied the action of the Becquerel rays upon the skin; also Halkin with the salt, radium-barium-bromide. They found that these rays had an effect upon the skin similar to the x-rays. The well-known cases of the burns produced on the arm of M. Currie and also M. Becquerel is cited.

Microscopically the whole of the skin was affected, but the most marked changes occurred in the blood vessels, the walls of which were degenerated; the epithelium was also affected.

As yet only a few tentative therapeutic experiments have been made.

2. *Finsen Rays*.—A very excellent article by F. H. Montgomery appeared in the December number of the *Journal of Cutaneous Diseases*, entitled "The Present Status of Phototherapy." This is a most judicious presentation of the subject and is worthy of the careful study of those interested. Dr. Montgomery has personally investigated in Europe the question of the various "lamps" and gives a fair report upon their relative values.

The greatest obstacle in the more general use of the Finsen treatment is the cost of the apparatus as used at the Finsen institute (Lysinstitute) the length of each exposure, seventy-five minutes, and the expense of a constant attendant. In the last seven years the rearrangement of lenses, etc., has reduced the time of exposure fourfold. The Finsen-Reyes lamps are designed for the treatment of one patient at a time and lessens the amperage used from 80 to 20. This lamp

is smaller and much less expensive than the original lamp, but requires an attendant.

In the effort to invent a lamp by which the cost, maintenance and length of treatment could be reduced, two principles, chiefly, have been utilized. In one class of lamps the electrodes have been made of iron, or other metals, giving light very rich in the ultra violet rays; in a second class the electrodes are of carbon but the source of light is brought much nearer the region to be treated, the condensers dispensed with and the amperage reduced to ten or twelve amperes. Of the second type of lamp, the best known is the Lortet-Genoud and a modification of this by Dr. Sequeira, known as the "London Hospital Lamp." Dr. Montgomery speaks well of this latter lamp, from personal experience. He says: "In both these lamps the carbons may be brought within two inches of the surface to be treated, water circulating between two quartz lenses, cutting off the heat rays. The amperage is ten to twenty and the voltage fifty-five. In a considerable number of cases the results of treatment with these lamps have been very satisfactory and obtained more rapidly and with less expense than with the original Finsen apparatus." He formerly thought that fifteen minutes exposure, apparently gave the same reaction as an hour's exposure with the Finsen apparatus, but a longer experience with the lamp has shown that while it is unquestionably cheaper and more convenient in every way than the original Finsen lamp, and while it is efficacious in superficial cases, it has not the power of the original lamp and does not reach effectively the deep-seated conditions. This is also the opinion of Sequeira, Leredde, Morris and others. The much spoken of Bang's lamp has iron electrodes and causes quickly a reaction which is more superficial than with the other lamps. These lamps illustrate or verify the dicta of Prof. Finsen that "it is not light alone but a large quantity of light which cures lupus."

Busck claims that he can produce an effect equally as quick with the original Finsen as with the other smaller ones, even those with iron electrodes. Kromayer thought that the reason the rays from the smaller lamps with the iron electrodes did not penetrate was because the large quantity of ultra violet rays they produced caused so much irritation that the exposure could not be sufficiently prolonged, therefore he tried removing the most refrangible rays by filtration. But Busck showed that the iron electrodes gave a light containing few blue, violet and ultra violet rays of short wave-length and therefore could not be expected to penetrate like the longer rays from carbon electrodes. It has been demonstrated by Finsen, Freund, Bie, Stretell and others that light is bactericidal and that the ultra violet rays were the most powerful. Jansen concludes from his studies at the Lysinstitute that concentrated electric light employed for an hour and a quarter will penetrate the skin with bactericidal power to a depth of 1.5 mm. and with a retarding influence upon the growth of bacteria to a depth of 4 mm. Montgomery concludes that of all known methods of treating forms of tuberculosis of the skin phototherapy gives the best results. Phototherapy is, however, not as effective as the x-ray in patches covered by hypertrophic epidermis or crusts or where there is much pigmentation.

Phototherapy has also proven of value in lupus, lupus erythematosus, rosacea, alopecia areata, certain vascular naevi and circumscribed diseases of the skin.

In the treatment of deeper diseases, the results have not been encouraging.

Nagelschmidt concludes from experiments upon guinea-pigs with tubercle bacilli that the curative action of the light upon various skin diseases was not due to the indirect destruction of the pathogenic organisms by reactionary inflammation, but by the direct bactericidal effect of light, and that when the tissues were no longer irritated by the bacilli, absorption of the morbid products occurred.

Schmidt and Marcuse state from histological study of the skin exposed to Finsen rays that the changes start upon the surface and slowly reach the deeper tissues, and that the curative action is due to inflammatory reaction and degeneration of the lupoid or pathogenic tissue. This has been the general opinion in respect to all forms of concentrated light, both of the x-ray and Finsen rays. Opposed to this retarding action of light is the apparent stimulation to normal tissue. It is a well-known fact that hair grows more rapidly in summer than in winter, which has been attributed to the stimulating effect of the actinic rays. H. L. Schmidt therefore undertook the study of this subject with the chemical rays as obtained from a Finsen lamp. It has been noticed that hair grew rapidly on the arms of attendants in the Finsen institute. From Schmidt's studies he concludes that this phenomenon of increased hair growth does not occur from direct or specific action of the rays, but to be indirectly due to the inflammatory reaction on the skin and the increased vascularity and better nutrition of the part. It has also been remarked of the x-rays that short exposures at a long distance tends to increase hair growth.

A peculiar atrophy of the skin of the hand is reported by the same author after an exposure to the x-rays for half an hour, which has existed for five years.

X-Rays.—The therapeutic action of the Roentgen rays is still being lauded in their curative action in various diseases of the skin. There has been nothing but increased enthusiasm over this remarkable and easily applicable agent. In the treatment of rodent ulcer and superficial circumscribed diseases no other remedy offers such invariably favorable reports. In acne numerous observers consider these rays the most potent remedy. Nothing entirely new has been written in this field, the literature consisting of reports of cases, reviews of the present status, etc. It can be easily noticed, however, that there are fewer favorable reports upon the action of the rays in visceral carcinoma. Several relapses of superficial growths have been reported and some unique effects of rays, yet, one must feel convinced that the therapeutic action of the rays, in the last year, has made many converts and has placed this form of therapy upon a firmer foundation than ever.

Therefore, we might add, from a careful perusal of several well-written papers, that the general status of the x-ray question has not changed in any of its features from the preceding year. At the meeting of the American Dermatological Association in Washington last May the most conservative admitted the great value of this agent. The excellent papers read by Drs. Pusey, Bronson and Stelwagon are well worthy of careful reading.

Several have advocated preoperative as well as post-operative radiation, especially in carcinoma of the breast. As a result of the former procedure, Dunn and others have seen sloughing, which they attributed to the devitalizing effects of the rays.

Præcancerous Keritosis.—Hartzell has histologically investigated five cases

of senile keratoma from five patients, all of whom had also epithelioma. These patches upon the face and hands of old people are familiar to all; they are light brown to black in color, are raised, circumscribed, slightly indurated and may be covered with greasy scales. Various names have been applied to these lesions, *verruca seniles* being probably the most frequent. These apparently harmless plaques are dangerous, as they sooner or later develop into epithelioma. Hartzell found that in all the cases there was a marked increase of thickness of the corneous layer of the epidermis, the greatest increase being about the follicle mouths. In the basil layer of the mucosa there was always evidence of increased cell activity. In the older lesions there were all degrees of increase in the thickness in the rete up to actual invasion of the corium and beginning epithelioma. The corium was normal, so were the sebaceous glands. The coil glands and their ducts showed proliferation of their epithelium and a cellular exudate about them, showing that probably the coil apparatus plays no unimportant part in these keratoses.

Lupus Erythematosus and Erythemas.—Warde and Galloway, of England, still write spirited articles in the advocacy of their views upon lupus erythematosus and the erythema group. The ideas of these gentlemen upon this subject were fully given in the last yearly review in this journal. Galloway, in his presidential address before the Dermatological Society of Great Britain and Ireland, discussed the subject ‘Erythemata as Indications of Disease.’ He refers quite extensively to the cases reported by Osler, which emphasizes the relationship between the erythema group and serious visceral affections. Galloway believes that simple erythema may pass on to true exudative lesions in certain conditions of lowered arterial tone and vitality, thus making necrosis and localized death of tissue possible. Galloway and McLeod report cases demonstrating their opinion that lupus erythematosus is a symptom of general toxemia as well as the simple polymorphic erythema, thus making it necessary in this class of disease to study various conditions from which the eruption might arise. That a simple polymorphic erythema may become a more or less permanent circumscribed low grade inflammation and produce what is clinically known as lupus erythematosus is, therefore, probable.

It is interesting to follow out this train of thought in conjunction with the researches of Phillipson, Toeroek and Vas in the ‘Pathogenesis of Urticaria.’ Urticaria, we know, is usually due to a general toxemia, the wheals being generally ascribed to an angio-neurotic phenomenon. Phillipson, in 1900, from experimentation, decided that the wheal was produced by the action of an irritant upon the vessel walls or by circulating in the blood. The researches of Toeroek and Hari go to corroborate the views of Phillipson, that the wheal is an inflammatory lesion resulting from the local action upon the blood vessels of some irritant, and is, therefore, not an angio-neurosis.

If this be true, a great point is gained in explaining the pathogenesis of certain peculiar phases of many so-called angio-neuroses, a word which covers and has covered a lot of ignorance, but is of as much convenience to us as a dark corner is to a lazy housemaid. The modern views of the writers quoted places all this chain of ‘angio-neurotic’ diseases in a better and more reasonable pathologic position and coincides with our researches upon certain drug eruptions. Phillipson reaffirms his views again this year in a study entitled ‘Evanescant Irritative Edema of the Skin.’

The Purpuras.—L. Toeroek maintains that all true purpuras are of similar origin, viz., that of some infective or toxic agent in the blood stream; that their clinical differences are only differences in degree of severity; that there is no pathological lesion which is characteristic; and at present the only scientific way of classifying them is according to their pathological cause.

Scarlatiniform Erythema.—Kramsztyk believes, from the cases that have occurred under his care, that there is a *pseudo-scarlatina-recurrens*, not due to a local infection of the skin, but rather a general infection allied to the infectious diseases. In this rare disease the eruption resembles that of scarlatina, but is not preceded by vomiting nor accompanied by sore throat or strawberry tongue; moreover, the secondary desquamation occurs earlier than in scarlet fever, is more copious, and in the form of psoriasis-like plaques, which makes its appearance before the disappearance or even fading of the primary eruption.

Secondary Eruptions in Smallpox.—Schamberg has demonstrated by cultures that the variola lesion is sterile until the eighth or ninth day, when there is an invasion of the ordinary organisms, which produce by their presence various impetigo-like blebs and pustules, or the secondary lesions of the disease. This forms one group, but there are, however, scarlatiniform rashes which appear from the sixth to the thirteenth day, of septic or toxic origin, due to absorption. These rashes are often erroneously thought to be true scarlatina.

Parapsoriasis.—Brocq sums up briefly the salient points of his disease, parapsoriasis, as follows:

1. Almost complete absence of pruritis.
2. Very slow evolution.
3. Distribution in circumscribed, sharply defined patches, whose dimensions are from 2 to 6 cm. in diameter, scattered here and there over the integument.
4. Almost complete absence of infiltration in the derma.
5. A fine pityriasic desquamation.
6. An extraordinary resistance to the local applications usually used in the treatment of psoriasis and seborrheic eczema.

Etiology of Acne Vulgaris.—In 1893, while working in Unna's laboratory upon comedones, the writer of this review saw in his sections of comedones small bacilli which Unna also found in his study of acne lesions. The writer left Hamburg and turned over his material to Monahem Hodara. The writings of Unna, Hodara and Sabouraud have made this bacillus quite familiar to those interested in dermatology. Gilchrist has, for the last few years, been working on the etiologic value of this bacillus and believes that it is the specific cause of acne vulgaris. He finds it virulent to animals and gets an agglutination reaction with the blood of acne patients; none with control blood. His deductions are interesting: viewing acne as a local disease, with a chain of constitutional disturbances from absorption of toxines. Pringle describes a "*Rare Seborrhoide of the Face*," which, in its clinical symptoms is similar to acne rosacea. The principal feature of this disease is the presence of small, pin-point to split pea, nodular prominences upon a reddened base scattered thickly over the face: the color is of a brownish pink. The lesions are follicular and firm to the touch, having a glazed appearance. Histological examination showed a perifollicular infiltration about the pilo sebaceous follicles.

Tuberculosis of the Skin.—Herz endeavored to determine the diagnostic value of agglutination in skin tuberculosis. He selected patients with lupus, tuber-

culosis cutis, serofuloderma, lichen serofulosorum, but concludes that the serum reaction is not available for the diagnosis of skin tuberculosis. Gilchrist reports an exceedingly interesting case in a girl sixteen years who had ulcerations and scars on the palate, hoarseness, an enlarged gland, with an ulceration involving the skin of the nose. There were no symptoms of syphilis. No lupus nodules could be detected near the patches. The histological architecture of a piece of the lesion on the skin was typically tuberculosis; but, scattered in the section, particularly in the giant cells, were curious bodies which were at first taken for blastomyces. They were round or oval, doubly contoured. Many had undergone calcareous degeneration. There were no tubercle bacilli in the sections. Six months later the enlarged lymphatic glands were removed, and in them were found the calcareous bodies. No bacilli were found in the glands. A piece of gland was introduced into the peritoneal cavity of a guinea-pig, which died and in its liver were found nodules largely made up of similar bodies found in the skin and gland tissue. Two years later the patient reappeared with new lesions and enlarged glands. The latter was removed. Media was inoculated with negative results. A dog was inoculated and killed in two months. A piece of cervical gland showed the same bodies found in the patient. On slant agar a mould grew from this gland. On potato inoculated from the lung of the dog a streptothrix grew, which was fatal to mice and guinea-pigs. Portions of the gland from the dog were introduced into guinea-pigs in which nodules containing the same bodies were produced.

Three years later the patient appeared again with a relapse. It was curetted and a guinea-pig inoculated, which died. The inguinal glands were enlarged and in them many tubercle bacilli were found. Sections from this last relapse showed none of the original bodies.

What were these bodies? (Calcareous deposits, degenerating elastic fibers (Hektoen), or a form of organism?)

It is peculiar how often blastomycosis and tuberculosis co-exist: "Cutaneous blastomycosis followed by laryngeal and systemic tuberculosis. Death." Montgomery reports this case, but it differs in no essential from several others previously reported by Hyde and himself. The author remarks in explanation of this double infection that it is remarkable that secondary infection with tubercle bacilli does not occur more frequently, as large areas of diseased skin are exposed to the bacteria of the air.

Another case of "Dermatitis Coccidioides" is reported from California by D. W. Montgomery, Ryfkogel and Morrow. The protozoa-like organism, the cause of this disease, shows two cycles of growth, one in an animal body as a sphere between $3\frac{1}{2}$ to 5 surrounded by a double contoured capsule. There is no budding, but formation within of spores. On culture media it grows as a mould fungus.

Leprosy.—Filaretopoulo, after an extensive study of leprosy, says that it is a microbial disease, pre-eminently hereditary and very rarely contagious. The offspring of the leporous may show dystrophic changes from the passage of toxins of the bacilli or they may have the disease by the passage of the bacilli. Filaretopoulo recognizes two forms of leprosy:

1. General leprosy: the tubercular or anesthetic types, due to the presence of Hansen's bacillus.
2. Local leprosy, due to intra-uterine transmission of the toxins. The

author asserts leprosy is curable and is only contagious under proper conditions.

Reshetillo, on the contrary, believes heredity plays a small part in the spread of leprosy, and says there is no hereditary transmission except by infection.

Ivanov made an emulsion of leprous lesions and injected various amounts into the abdominal cavity of guinea-pigs. Even eight months afterwards lepro-bacilli could be found in large numbers in the liver, spleen, kidneys and bone marrow. After being exposed to a temperature of 120° C. and then injected, the organisms retain their full immutability or stability. Ivanov seems to have demonstrated that Hansen's bacilli multiply in the guinea-pig.

Syphilis.—We have at present two candidates before us ready to be dubbed the "syphilis bacillus." Since the original discovery of Lustgarten, numerous bacilli have appeared upon the horizon, to soon disappear from view, and, like the occupant of the lonely island, we still have hope. But why a bacillus? They (the candidates) are always bacilli. However, Max Schuller gives us two articles "On the Protozoa-like Parasites in Syphilis." These bodies are found chiefly in primary sores. Cultures seem to have been successful in several cases. All forms of the organism are said to be motile. Roux and Metchnikoff caused, by inoculation from a syphilitic ulcer upon the vaginal mucosa of a young chimpanzee, a lesion—a pouched-out ulcer in the center of an indurated plaque. The glands in the groin became enlarged. No eruption had occurred up to forty-six days of observation."

But, to return to the bacilli: Joseph and Piorkowski, reasoning (entirely upon clinical grounds) that the semen of syphilitics contain the bacilli, began their experiments with this secretion upon sterile, but unboiled, portions of placenta. They succeeded in growing from the semen of syphilitics upon this media colonies of bacilli, which presented certain characteristics. They always obtain the same organisms from the semen of rather recent infections, but not from that of cured cases or non-syphilitics. The bacilli have been demonstrated, microscopically, in the semen by staining methods, in chancres, in syphilitic papules and mucous plaques. The work of these authors has been painstaking and seemingly careful, and, although not conclusive, it deserves every consideration. We must say, not so convincing, from this standpoint, is the work of De Lisle, as he, as yet, has not made as many demonstrations to prove his point as the former authors; yet the reasoning of De Lisle, that the syphilitic organism, as it has escaped the most careful search thus far, may be one of the "invisible micro-organisms," seems feasible. He cites the experiments of Roux and others, who proved that certain pathogenic germs or their spores were so minute that they could pass through the pores of certain fine filters; but fluids containing the microbe, when sealed in a collodion sac and then put into the peritoneal cavity of an animal, the contents of the sac became cloudy and, upon staining, small points could be seen, as demonstrated in the exudate from the pleuro-pneumonia of cattle. De Lisle, therefore, by a like method was able to demonstrate a bacillus, and has succeeded in getting it to grow, after passing it through the sac method, on special media. He makes the following statements about this bacillus:

1. This microbe is found in all patients with secondary syphilis.
2. It is agglutinated by the blood of secondary syphilitics.
3. It can be grown after having passed through a porcelain filter.

4. Direct circulation of blood of secondary syphilitics causes ulcers and adenopathy in animals.

5. Inoculations of animals with cultures of this bacillus causes lesions like those of syphilis.

6. It combines with the special sensitizing body (sensibilitrice).

7. Cultures of the bacillus have no effect on syphilitics.

8. The microbe dies with the host.

Sovinski failed to find De Lisle and Jullien's bacillus after careful and exact attempts to cultivate it.

Pini succeeded in finding a similar bacillus after De Lisle and Jullien's methods, and inoculated three non-syphilitics from cultures without results.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Acute Rhinitis.—Lohnberg, in discussing the etiology of acute rhinitis, says that an ordinary coryza is not a disease *per se*, but is a reaction of the nasal mucous membrane to heterogeneous irritations, local (chronic inflammatory conditions of the nasal mucous membrane, anomalies of the nasal interior, bacterial invasion, chemical and physical irritations) as well as reflex (exposure to cold, drafts). For that reason the only rational treatment is a prophylactic one: strengthening the natural resistance of the organism (regulating the respiratory functions of the nose, hardening the skin).

Walsh states that a "cold in the head" is an inflammation of the mucous membrane of the nose, and is almost surely due to bacterial invasion. Predisposing causes are pathological conditions in the nose (septal spurs, turbinal hypertrophies, polypi, etc.) which disturb the delicate mechanism. There being usually a large collection of all forms of bacteria in the nose, and unless the individual is in excellent health the breathing of very cold air leads to a blanching of the mucous membrane, leaving it in a lowered state of vitality, and when a subsequent reaction sets in a large number of the upper layers of cells are thrown off, and a disturbance of the mucous covering allows the penetration of the microbes into the parts which are favorable to their development. That exposure to cold alone does not produce a so-called cold, but is only a predisposing factor has been repeatedly proven. A striking indication that cold is due to microbial invasion is to be found in the fact that the process is nearly always accompanied by fever.

Ozena.—The etiology of ozena is still a question. Freudenthal believes that the primary cause is the breathing of excessively dry air, which in passing through the nose absorbs all the moisture in the cells, resulting in their death and an atrophy of the mucous membrane, as well as the deeper structures, the odor being due to the bacillus of Abel. Smyes describes a "diphtheria-like" bacillus which is peculiar to and found constantly in atrophic rhinitis. The cultural characteristics are those of the diphtheria bacillus and the organisms are pathogenic to guinea-pigs, producing the same lesions as the Klebs-Loeffler ba-

cillus. If their identity can be established, atrophic rhinitis can be regarded as a chronic nasal diphtheria. Some of the facts which support this theory are: That atrophic rhinitis, like diphtheria, attacks females more than males: it is a disease of early life, and induces a pronounced anemia and leucocytosis. Atrophic rhinitis has been successfully treated by diphtheria antitoxin, also that in atrophic rhinitis the type of the diphtheria bacillus does not alter during the progress of the case; a fact which has recently been found to hold true in acute faucial and nasal diphtheria.

Alexander believes there is a distinct relation between ozena and tuberculosis of the lungs, and for that reason the former should not be considered a benign affection. He found that the physical examination of fifty cases of ozena showed twenty-two to have unmistakable signs of pulmonary tuberculosis, while seven were regarded as suspicious.

As to the treatment of this obstinate affection, the submucosal injections of paraffin seems to have given the best results. Compared reports twenty-seven cases treated by injections of paraffin into the mucosa of the inferior turbinate bone. Of this number thirteen are reported as cured, in the sense of absence of odor and the disappearance of crusts, nine improved and five unresponsive to treatment. The permanency of the cure can only be established by the further lapse of time, though symptoms have been absent in some of the author's cases for ten months. This method is not applicable to all stages of the disease, as extreme atrophy and friability preclude the possibility of sufficient distention of the mucosa for the formation of artificial turbinates. The local as well as the internal administration of mucin is greatly lauded by Stuart, Low, Ambrombie, Wyle and others. Cases of ozena are reported which after resisting years of treatment yielded readily to mucin. The mucin solution should be made by rubbing up one tabloid and one soloid of mucin (Messrs. Borroughs and Wellcome) in two fluid drachms of warm lime water and six drachms of sterilized water, or one drachm of saccharated lime water may be used instead of the plain lime water. This solution may be used as a spray for the nose and throat. The nose should be first thoroughly cleansed and the mucin solution applied morning and evening. From eight to ten tabloids should be given internally, two before and two after meals. Boye reports his results with intranasal vaporization as advocated by Berthold in 1900. His experiments extend over a period of fifteen months. Twenty out of twenty-two are reported as cured, and the remaining two as greatly improved. Brown advocates the use of a solution of one-half of one per cent. pure acetozone in a neutral inorganic oil, which is sprayed into the nose after cleansing with some alkaline solution.

Hay Fever.—The researches of Prof. Dunbar, of Hamburg, have awakened renewed interest in the subject of hay fever. In November, 1902, the author reported that he had succeeded in isolating from the pollen of certain grasses a toxic substance, which, when applied in very small quantities to the eyes or nostrils of people predisposed to hay fever, produced in a few minutes, in a more or less degree, the local symptoms characteristic of the disease, while the same quality applied to the eyes or noses of people not predisposed had remained without any effect. He had also succeeded in producing an antitoxine by injecting the toxine obtained from the pollen of rye, maize and other grasses into the circulation of animals, such as rabbits, goats and horses. The antitoxine, when applied to the eyes or nostrils of hay fever patients in whom the symptoms had been produced

by the toxine, would immediately cause their cessation. In a further report he states that he was able to obtain the toxine from twenty-five different grasses. He believed the toxine to be a proteid, as it gives a distinct proteid reaction. It was also demonstrated that a toxine obtained from one variety of grass could be neutralized by the antitoxine obtained from another variety, leading Dunbar to believe that the toxines are identical. He also succeeded in producing the symptoms of hay fever by injecting the toxine into the arm of a patient. This was followed by considerable reaction at the site of injection. With some of the toxine and antitoxine obtained from Prof. Dunbar, Semon conducted a series of experiments from which he concludes: (1) That there can be no doubt that Dunbar has succeeded in extracting from the pollen of certain grasses a toxine, which, when instilled into the eyes and nostrils of people predisposed to hay fever, produces the characteristic symptoms of the disease. (2) That the toxine, when instilled into the eyes and nostrils of people not predisposed, produces in the majority no symptoms. (3) The effects of the toxine vary the same as there are different variations in different people. (4) The antitoxine causes the disappearance of the subjective and objective symptoms. (5) That in a mixture of equal parts of the toxine and antitoxine, the action of the former is neutralized. (6) That the effects of the antitoxine appear in some instances to suffice to prevent a reappearance of the subjective symptoms, while in others it requires repeated instillations to get a return to normal. In a later contribution to the subjection, Semon reports the result of his observation with the antitoxine on eight hay fever patients. He found that the remedy did not in any sense act as a panacea in any of the cases. It gave relief in some, and appeared to act beneficially in postponing the attack in others. Thost believes that the Dunbar pollen toxine and antitoxine prove conclusively that hay fever is nothing more than an idiosyncrasy of certain persons for certain pollens.

After making a series of examinations of the saliva in certain individuals afflicted with hay fever and those not afflicted with the disease, Kyle believes that in many cases the local irritation in the nasal mucous membrane is brought about by some chemic change in the constituents of the secretion of the mucous secreting glands. Sensitive areas within the nasal cavity or irregularities of formation of the cavities are factors in some cases; yet such areas or irregularities, instead of being etiological factors, are merely more susceptible to the irritation from within. Whether this irritating material, which brings about the attack is not in many cases manufactured within the system, the writer thinks can best be determined by a study of the saliva. That the chemistry of the secretions has to do with the causal factor the author has illustrated in a number of cases, by rapidly changing the reaction of the secretion, either from an acid to an alkaline or from an alkaline to an acid, or rendering it neutral, and in many instances he claims to have been able to either partially or wholly cure the attack.

Septum.—That no one method is applicable for the correction of all forms of septal deviations can readily be seen from the number of operations that are recommended. Mayer and others favor the Asch operation, while Freer and Menzl advocate the window resection of Krieg with their own modifications. In a recent report, Freer publishes his present method, which differs from the former in that he now removes the deviated bony septum with a chisel, Gruenwald's forceps or trephine instead of fracturing it with the Roe forceps. A num-

ber of new instruments have been devised by the author which greatly facilitate the technique of the operation. Freer states that there is no variety of deviation of the septum that his operation cannot remove in a neat and surgical manner without injury to the patient. Douglass has found from his studies on the cadaver that the triangular cartilage is not broken or twisted by the forceps in the Asch operation, nor is its resiliency diminished by the forceps, but he has found that what appears to be a lessened elasticity of this cartilage has been in almost every case due to the incision through the cartilage or its separation at the anterior and posterior border from the bony septum. He therefore recommends separating the cartilage from the spine of the superior maxilla with a chisel and then, if necessary, to crush the septum with the forceps.

Accessory Sinuses.—The diseases of accessory sinuses did not receive as much attention as in the past. This can be accounted for from the fact that these affections are much better understood, both as to treatment and diagnosis. In a recent report, Luc states that since he has adopted the method of making a large opening between the antrum and the nose he has not met with a case of maxillary sinus disease, no matter how chronic, that did not radically heal within a period of four or six weeks. The procedure he followed was the so-called Caldwell-Luc operation. He, however, agrees with Lermoyez, that it is not advisable to adopt the radical operation without first trying other measures. In chronic suppurations of the frontal sinus the Ogston-Luc operation is advised when the sinus is small. When the sinus is large the method of Killian is advocated. Luc has never recorded a single example of an isolated ethmoidal suppuration, and has dealt with this affection only in connection with frontal or maxillary suppurations. The ethmoidal labyrinth can be attacked in one of three ways: (1) Through the normal way of the nose; (2) during the maxillary operation; (3) during the frontal operation. It is not possible to destroy all of the ethmoidal labyrinth through the nasal route, as the most anterior of the anterior ethmoidal cells can only be reached from without. The nasal route is used only in the cure of the nasal myomas and as a preliminary step to the fronto-maxillary operation. A set of special forceps has been devised by Luc for the removal of the middle turbinate bone with the polypoid growths and for breaking down the partitions of the cells. To reach the ethmoid through the frontal sinus the method of Killian is advised as giving the most radical and satisfactory results. Two methods of dealing with chronic suppurations of the sphenoidal cavity are given: One through the nasal cavity and the other through the maxillary antrum, the latter as being the safest and easiest way. The method proposed by Picque and Toubert awaits confirmation.

Calamido and Bitelli report a case of injury to the frontal sinus in which there was a large opening in the anterior wall. From their observations of the case they conclude that normally there is a change of air in the sinus during each inspiration.

Polypi.—That the so-called radical operation for nasal polypi is not devoid of danger is shown by the case reported by Bronner. The patient died about a month after the operation. The post-mortem showed a purulent meningitis and a necrosis of the whole ethmoid bone. The author stated that he knew of two other cases, but could not report them.

Nasal Deformities.—Many cases have been reported in which excellent results have been obtained in correcting nasal deformities by injections of parffin.

The histological examinations of the paraffin "depots" have shown that the paraffin is never absorbed, but becomes encapsulated, and that there is a small cell infiltration with a formation of fibrous threads through the mass. Moskowitz recommends that the injection of Schleich's should precede the paraffin, and after inserting the needle, to be sure to aspirate to see if a vein has been entered in order to avoid embolism. Hurd and Leiser each report a case of total blindness following paraffin injections for the correction of nasal deformities, showing that what was at first considered a very simple and harmless procedure is not free from serious consequences.

Pharynx.—That there is further information to be gained from bacteriological examinations of cultures from pharyngeal exudates than is obtained by merely looking for diphtheria bacilli is pointed out by Hallowk Park. He states that the ulcerative exudative inflammation described by Vincent occurs more frequently than most believe. The finding in smears made from the exudate of the abundant long spirelle and the fusiform bacilli described by Vincent, while at the same time no diphtheria bacilli appear in the culture, a diagnosis of the disease can be made. The exudation due to the thrush fungus may not only be found in children, but also in the pharynx of adults. Inoculation of the fungus, the odian albicans, have been carried out on slightly abraded mucous membranes and the disease produced. The pharyngeal exudates occurring either early or late in scarlet fever are usually not due to the diphtheria bacilli. Class, of Chicago, has described a peculiar coccus, which he believes to be the exciting factor in scarlet fever, but this has not been universally accepted. Park's examinations have shown a great increase in streptococci in these cases, but no organism that can be identified as being different in kind from what occurs in ordinary tonsilitis. In the pharyngeal exudates complicating the various diseases the bacteriological examination reveals, as a rule, streptococci and micrococci. Except to disprove diphtheria, the results of these examinations give little aid in the prognosis and treatment.

Adenoids.—Numerous contributions to the subject of adenoids have appeared during the past year. Redard has again called attention to the frequent coexistence of deviation of the spine, principally cyphoses, with chronic obstruction of respiratory passages. He claims that many authors have adopted his conclusions that this coexistence is not a coincidence; but there is a very evident causal relation, from the fact that a cure of the vertebral deviation takes place under the sole influence of the removal of the nasal and pharyngeal obstruction.

Moeller points out that adenoid vegetations not only occur in the fossa Rosenmueller, but extend downward on the sides of the pharyngeal walls. A report of nine cases is given in which these "lateral" adenoids were removed by means of Mygind's adenotome. These growths are seen at a later period than the ordinary ones, and do not show any tendency to atrophy. The diagnosis can often be made only after the pharyngeal tonsil is removed, and then only by careful digital and post-rhinoscopic examination.

Nikitin believes that adenoids and hypertrophied tonsils represent only a part of a diseased process, as the disease manifests itself beyond the limits of the lymphatic ring of Waldyer and involves the deep lymphatic glands in the neck, the adenoids or tonsils being the points where the process is most prominently developed.

Ptapow, after studying one hundred cases of adenoids in infants, concludes

that interference with nursing, swallowing and dyspepsia are frequently caused by adenoids. Examination is only possible by anterior rhinoscopy. Before the fifth month he does not operate on these cases.

Tonsils.—A plea for the classification of tonsilitis among the infectious diseases is made by Sands. The records of his cases show the incubation period to be from one to four weeks. He has been able to trace the exposure in more than half of his cases to some preceding case. The symptoms and cause also point to the infectious nature of the disease. According to the author, phytolacca is the remedy *par excellence*. One drop of a one per cent. solution is given every hour. If suppuration has already begun the sulphide of calcium in one grain doses is administered.

Pyncheon employs the term degenerate tonsil to all the ordinary or commonly met chronic tonsillar diseases. He advises the thorough removal of all of the diseased tonsil, owing to the danger of systemic infection occurring through the lymphatics and that retained secretions may give rise to grave phlegmonous anginas. The electro-cautery is recommended as the dissecting instrument.

Steis has devised an operation for removing the tonsils. The patient is placed on the side under a general anesthetic, the tonsil is drawn out with a volcellum, a hooked knife is passed between the tonsil and the anterior pillar of the fauces beneath the basement membrane. The finger is then introduced into the wound and using it as a blunt dissector the tonsil is turned out.

Damianos and Heerman were able to collect 150 cases of severe hemorrhage following tonsillotomies, of which seven proved to be fatal. They report another case of their own. Death occurring sixteen days after a tonsillotomy.

Burkard says it is not positively known just what vessel or vessels are severed, or if it is always the same one in these cases of severe hemorrhage. He recommends the method of Nicalodoni in controlling these hemorrhages, viz.: to approach the tonsil from without. The curved skin incision is made one cm. below and behind the insertion of the lobe of the ear and carried a finger's breadth anterior to the angle of the jaw. The tonsillar vessels are then caught and ligated and the wound closed.

Peritonsillar Abscess.—Three locations are claimed by Cobb as possible situations of peritonsillar abscess: First, the pharyngo-maxillary fossa; second, the supratonsillar fossa; and third, the areolar tissue about the tonsil. From the anatomic conditions and the clinical appearance, the site of the abscess is believed to be the areolar tissue. The incisions used are an upward and backward one, using a straight knife, for antero-superior cases; while for postero-superior an outward incision between posterior pillar and tonsil, with a right-angled knife, is advised.

Facial Neuralgia.—Porcher believes that the most frequent cause of severe facial neuralgia is a localized inflammation in the nose, antrum and teeth. In support of his views on this subject the author reports six which were cured by intranasal operations for the cure of septal deformities and antral suppurations. In one of the cases the Gasserian ganglion had been removed with only temporary relief. Complete relief followed the draining of the antrum of Highmore and the correction of a septal deflection. Snow states that in the twenty cases that he had observed and treated he had seen none that required excision of the nerve to obtain relief. Each one showed marked intracranial pressure or a collection

in some of the accessory sinuses. This author believes that at least 80 per cent. of the cases were dependent upon intracranial pressure.

Tubercular Laryngitis.—The literature on the operative treatment of laryngeal tuberculosis during the past year is very limited. Lockard advocates the adoption of the same surgical measures that are in use in other parts of the body for the cure of localized tuberculosis, especially if the lung involvement is comparatively slight. The chance of operation depends upon the preference of the individual operator and the lesions. Cutting instruments are preferred to cauterizing agents. The author states that in contrasting the results obtained from surgical measures with published statistics of other methods, the former give the best chances of recovery. Surgical measures are also advocated for the relief of pain in incurable lesions.

Lake reports a case of removal of the epiglottis with the galvano-cautery snare for the relief of intense dysphagia. The result was that the pain was entirely relieved and the patient rapidly gained in health.

Carcinoma of Larynx.—The later statistics of all the operations for carcinoma of the larynx are much better than the earlier ones. Hartley states that the death rate for laryngectomies from 1889 to 1900 were reduced from 44 per cent. to 8.5 per cent. The increase of those remaining cured for three years is from 7 to 15 per cent. Formerly most of the deaths were due to aspiration pneumonia. These are now avoided by operating with the hanging head and the use of the tampon canula, and by suturing the stump of the trachea to the skin.

Freer points out that the earlier the diagnosis the better the chance for the success of operative interference, as laryngotomies and endolaryngeal operations offer better chances of recovery than laryngectomies. Yonge states that the most characteristic symptom of early malignant disease is a persistent dry hoarseness, especially in a person over fifty years of age.

Laryngeal Stenosis.—A valuable contribution to the operative treatment of stenosis of the larynx following intubation and tracheotomy. One per cent. of cases intubated for acute stenosis are found to require continued intubation or tracheotomy thereafter. The cause of the retention is due in the majority of cases to chronic inflammation of the interlaryngeal mucous membrane and hypertrophy of the subglottic tissue, and not, as generally supposed, the result of granulation ulceration on cicatricial bands. Dual advises in the treatment to introduce the largest-size tube possible under an anesthetic. The tube should be specially constructed, the construction below the neck being only 1-32d of an inch smaller than the retaining swell. This tube should be left undisturbed for at least six weeks. Where auto-extubation frequently occurs it is better to split the larynx and retain the tube by a clamp, rather than resort to a tracheotomy. When it is impossible to dilate the larynx, it will be necessary to perform thyrotomy as in three cases reported by this author.

Ear Anatomy.—The experiments of Braunstein and Buhle show that, contrary to Politzer's belief, the vessels of the middle ear entered the promontory but not the labyrinthine capsule.

Otitis Externa.—The tampon treatment of otitis externa furunculosa is highly recommended by Sack, who claims that the failure of others is due to not applying the tampon properly. His method of application is as follows: The canal is cleansed by gently syringing, after which it is carefully dried. A tampon of cotton which has been soaked in a 10 per cent. solution of carbolic acid in glycer-

ine is placed in the canal. This tampon must be so applied that it exerts a certain amount of pressure. If properly applied the pain soon subsides and if renewed daily the process will disappear in from three to four days.

Otitis Media.—The necessity of making bacteriological examinations of the pus in all cases of purulent otitis media, immediately after a paracentesis or rupture of the drum membrane is pointed out by Phillips. The streptococcus is the most virulent of all the pathogenic organisms found in purulent otitis media. This is true both as to rapidity of its invasion and severity of the accompanying symptoms. Next in virulence is the diplococcus intercellularis meningitidis. The staphylococcus is generally found in company with the streptococcus. The pneumococcus is more frequently found in purulent otitis media than any of the others, but is not especially virulent.

The use of the gelato-glycerine bougies in the treatment of acute earache in young children is advocated by Richards, especially in the early stages of acute otitis media.

The internal administration of cervisina is greatly lauded by Molist in acute suppurations of the middle ear. Gray recommends a saturated solution of iodoform in aniline oil in cases of foul-smelling discharges from the ear and in tuberculous cases. Geronhi advises instillations of solutions of formalin ranging from 2 to 10 per cent., depending on the tolerance of the patient. Good results from the use of superheated medicated air (air that is mixed with such volatile substances as formalin and menthol and heated to a temperature of 200 degrees or more) in chronic middle ear suppurations are reported by Beck.

The question as to when the internal jugular should be ligated in cases of intracranial complications of otitis media has recently received a great deal of attention. Ballance says this should be undertaken (1) in acute pyemia and acute septicemia, whether the sinus is occupied by clot or fluid blood; (2) if the sinus wall is gangrenous or its contents are putrefying, unless it is perfectly clear that on both sides of the area of inflammation the lumen of the sinus is completely blocked by non-infected thrombi; (3) if it is proved, or even suspected, that the blood of the jugular bulb is in part or wholly clotted; (4) if the jugular is thrombosed. The author believes ablation of the vein to be better than ligation.

Chronic Catarrhal Otitis Media.—There is still a difference of opinion as to the value of the electrolysis in the treatment of strictures of the eustachian tube; some authors (Duel, Matlock) strongly recommend it, while others (Pierce, Goldstein) claim that equally good results can be obtained with the ordinary bougie.

Internal Ear.—Alt and Wingrave are of the opinion that the abuse of alcohol and tobacco are two factors in the production of diseases of the auditory nerve that do not receive attention. The majority of the mild cases of nicotin neuritis cannot be diagnosed. Wingrave states that deafness due to tobacco smoking may be classified into three groups: (1) Mechanical (a violent negative pressure is exerted with each inspiration when smoking a pipe or cigar, leading to a persistent hypermia of the eustachian tubes). (2) Irritative or catarrhal (the chemical and mechanical irritation of the smoke on the mucous membrane). (3) Toxic or nerve deafness (due to the gradual accumulation of certain toxins of the tobacco in the system).

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

In the following review the editor has endeavored to present a systematic, though necessarily cursory, synopsis of progress in ophthalmology during the past year. No effort has been made to include all the new work of importance, allusion having been made to such papers only as touch upon new concepts or illuminate old ones. Direct reference is made to especially illustrative and striking papers.

Refraction.—The ingenious method of Holth for the objective determination of the refraction—Kinescopy—has undergone further elaboration at the hands of the inventor with a view to making it of successful clinical application. It is improbable that the method will replace any of the objective methods in use at the present time, owing to the fact that it requires intelligent co-operation on the part of the patient, a factor which may be entirely dispensed with in Ophthalmoscopy and Retinoscopy. The latter has been investigated by Jackson to determine the factors necessary to establish it as a method of precision. He enumerates them as follows: Working at a distance of one-quarter to one-half a metre, the accurate measurement of the distance, the adaptation of the source of light and the sight hole to this distance, care to bring the source of light close to the conjugate focus of the retina, means of fixing exactly the direction of the principal meridians, control testing, by departure both ways from the lens, strength, focal distance, or meridian fixed upon, and, in general, precision and exactness in every detail. The well-known experiment of Schreiner (upon which Holth's method is based) has also been utilized in the construction of an apparatus designed to measure the refraction objectively. The fact that the static refraction of an eye is not invariably a fixed and immutable quantity is meeting with wider recognition. Risley, for instance, records cases of change in refraction from hyperopic astigmatism to simple hyperopia, and several cases of alteration in the amount and angle of an astigmatism. According to Bull, compression of the cornea by the lids in the act of frowning may so distort the former as to produce notable changes in the retinal images and hence asthenopia.

But little real advance has been made in our knowledge of the etiology of myopia. Liebreich¹ assumes that the disturbance in the relation of accommodation and convergence by increase in the size of the angle B is due to too great separation of the inner orbital walls and hence an increase in the interpupillary distance. The prolonged controversy as to the value of "full correction" as opposed to "under correction" in myopia still wages. More and more evidence is accumulating to support the contention of Jackson, that "in the great mass of myopes the tendency to increase of refraction is checked and the disability of not seeing well at a distance done away with by fully correcting the error and instructing patients to wear their correcting glasses for distance and near." The operation of extraction of the lens in high grade myopia finds a greater number of advocates than ever before. Emmert reports operation in fifty carefully selected cases with uniformly good results. He limits his cases to those in which

vision remains low in spite of full correction and where strong glasses cannot be worn and the patients desire to see well at a distance.

The danger of post-operative retinal detachment is, however, ever present and will doubtless continue to deter the more cautious operator.

Muscles.—An interesting case of paralysis of both superior obliques consecutive to fracture of the left superior maxilla is reported by Demicheri. Hemorrhage at the apparent origin of the fourth pair is assumed as the most probable lesion. Busse and Hochheim record a case of syphilitic inflammation of the external eye muscles in a patient with intermittent tachycardia. Autopsy showed interstitial myositis and myocarditis. Under the title, "Congenital Defect of Abduction Associated with Retraction of the Eyeball in Adduction," Evans² describes a peculiar condition which is congenital and usually confined to one eye. "Attempted conjugate movement towards the unaffected side is associated with imperfect rotation inwards of the faulty eye, its retraction into the orbit and narrowing of the palpebral fissure, and sometimes an upward or downward rotation of the globe. On the contrary, when the patient tries to turn the eyes toward the affected side the defective eye comes forward and widens the palpebral aperture to an extent equal to that of the normal side, but fails to move onward beyond the vertical mesial plane of the orbit." Stieren reports a unique case of congenital absence of both inferior recti muscles. Advancement of a paretic muscle is advocated by Landolt. He believes that tenotomy is indicated in complete paralysis of long standing where the antagonist cannot relax and where binocular vision is absent on account of blindness of one eye. In two cases of paresis of the superior oblique, Jackson³ displaced the tendon of the superior rectus backward and outward, thus enabling it to assume vicariously some of the functions of the superior oblique.

Lids.—An unusual cause of trichiasis has been observed by Bouchart. A roll of fat situated in the subcutaneous tissues forms a projection near the free border of the lid and displaces the ciliary margin downward or even backward. In one case the author removed a mass of fat as large as a pigeon's egg. Two very interesting cases of spasmodic retraction of the upper lids are reported by Chevallereau and Chaillous. In one of the cases, both upper lids were strongly retracted so that a strip of sclera was visible above the cornea. On looking downward the lids remained motionless. A nevus of the upper lid was vaccinated by a Chinese quack in the hope of removing it or replacing it by a scar. The patient developed fever, a lid pustule, chemosis of the conjunctiva and a membrane on the tarsal conjunctiva, yet, despite these complications, the final outcome was good. The case is reported by Kikutsi, who warns against the procedure as seriously threatening the integrity of the globe.

Conjunctiva.—A number of excellent papers on vernal conjunctivitis have appeared, probably the most exhaustive being that of Posey.⁴ Demicheri calls attention to the absence in vernal catarrh of any involvement of the superior cul-de-sac, a fact which is of the utmost importance in the differential diagnosis from trachoma. Nicola disbelieves in the specificity of trachoma, and ascribes the pathological changes to a reaction of the lymphoid stratum of the conjunctiva to any of the causal factors of conjunctivitis. As an example, he cites the instance of a family infected with a Koch-Weeks bacillus conjunctivitis; certain members recovered completely under simple medication, whereas others resisted all treatment, and their conjunctival trouble terminated in true trachoma.

A fleshy, smooth, gelatinous-like mass arose from the conjunctiva in a fifteen-year-old boy. The preauricular and cervical glands were swollen. The tumor was regarded as tubercular and removed, but absence of tubercle bacilli and the negative results of inoculation disproved this diagnosis. A history of syphilis in the father was elicited. Recovery under specific treatment. Four cases of conjunctival streptococcus infection are reported by Poulard. In all there was considerable swelling of the lids. Perforation of the cornea occurred twice, and once there was a small benign ulceration. Etiologically, the cases are grouped by the writer as follows: (1) Streptococcic conjunctival infection of lachrymal origin; (2) infection developed in the course of or after an infectious malady; (3) infection grafted upon another form of conjunctivitis. Fatal hemorrhage from the conjunctiva in a newborn infant after the use of the Crede method of prophylaxis is recorded by Wiener. The possibility of intrauterine gonococcal infection of the conjunctiva receives additional confirmation in the case reported by Armagnac. One hour after birth (which occurred forty-five minutes after the rupture of the membranes) pus was found to be escaping from the lids, and the corneæ were macerated.

Lachrymal Apparatus.—Radical removal of the lachrymal sack as the only means of permanent cure in many cases of purulent dacriocystitis and allied conditions continues to meet with the support of ophthalmic surgeons. Atrophy of the lachrymal gland accounts, in Rollet's opinion, for the ultimate disappearance of the epiphora. To guard against the ever-present danger of severe corneal infection in workmen the subjects of dacriocystitis, Axenfeld recommends extirpation as a prophylactic. In Schirmer's opinion, excessive epiphora, after removal of the tear sack, is often due to conjunctivitis or entropion. If epiphora persists after correction of these conditions, removal of the lachrymal gland is recommended. Epiphora in babies with the formation of mucocoele is regarded by Heimann⁵ as due to atresia of the naso-lachrymal duct from retardation in development. He recommends daily massage. Panas describes an ulcerating fungus growth occurring in the region of the lachrymal sack during the secondary manifestations of syphilis. Guibert⁶ removed a small tubulated greyish-yellow concretion which microscopically proved to be typical actinomycosis. An interesting case of dacrioadenitis ensuing during the exhibition of moderate doses of potassium iodide is described by Priout. Recovery followed cessation of the drug.

Cornea.—In view of the little known etiology of keratoconus the cases described by Kopff⁷ are of great interest. In one case the patient sustained a violent blow on the eye, which was shortly followed by the development of *bilateral* keratoconus and general nervous symptoms. In a second case a unilateral keratoconus developed after a blow on the eye by a fist. Menzies⁸ classifies detachment of the corneal epithelium into two main types. (1) The vesicle appears each morning or during the night, or is caused by rubbing the eye. Pain is brief and in the intervals the cornea may appear normal. (?) The epithelium appears like a collapsed blister. Action of the lids on the exposed nerve endings causes the sensation of a foreign body. There is usually a history of trauma. The epithelium does not reattach firmly and is continually torn off by the movements of the lid. Microscopically, changes are found in the epithelial cells. The diagnosis is based on the history and pain on opening the eye in the morning. Frequently, pressure on the cornea through the lower lid will roll up

the slack epithelium and thus permit it to be seen. The presence of pain with little or nothing to account for it should lead one to suspect this condition. Treatment, in the first class, consists of inunction of the cornea with a bland ointment; in the second, removal of the epithelium, curettage of the affected area, bandage and rest. The same subject is discussed by Stood,⁹ who states that normally the deepest cylindrical layer of the epithelium adheres to Bowman's membrane by means of little processes which pass into the clefts and furrows of the membrane. After injuries the new epithelial cells pushing in from the margins of the defect rest upon an altered Bowman's membrane and adhesion is less perfect. At night the newly formed epithelium becomes attached to the lid and is loosened and its nerve endings injured when the lid is opened. The vesicle is formed by the passage of liquid from the parenchyma of the cornea. Fuchs describes the results of anatomical examination in nine cases of ring abscess of the cornea. Infiltration extended around the cornea one to one and a half mm. from the limbus and consisted of an anterior and posterior zone. The former which was the chief seat of pus occupied the middle and superficial lamellæ of the cornea. Pus in the posterior zone, which comprised the layers next to Descemet's membrane, was derived from the anterior chamber. Seneffe and Villard add to the literature the seventh authentic case of primary sarcoma of the cornea. Microscopically, the tissue was formed by a network of bundles of connective tissue fibers separated by fusiform and round cells.

Lens.—Becker observed the development of cataract in a young goiterous woman. He attributes the trouble to autointoxication, comparable to the origin of lenticular change in Graves' disease and myxedema. A paper of great interest is that by Robinson¹⁰ on "Bottle Finisher's Cataract." The bottle-finisher, in the course of his work, is obliged to expose his eyes to the direct glare of the furnace for at least sixty-six minutes on each shift, or about five and a half hours a week. The disease begins before the age of fifty as a brass-colored opacity at the posterior pole of the lens. The beginning of the trouble at this site is explained (1) by the fact that the nodal point is situated at the exact spot where the cataract begins, and here all the principal rays falling on the lens cross and pass without refraction; (2) all other rays are refracted at the cornea and again at the anterior surface of the lens, so that they are crowded together, and hence are more injurious when they reach the back part of the lens; (3) the bright light of the furnace contracts the pupil, so that the iris shields the periphery of the lens from damage. The disease can be prevented by the workmen wearing dark blue glasses. A small air-bubble-like vesicle containing a cysticercus situated just behind the lens was observed by Guiot. After the ingestion of 1.5 grams of potassium iodide in the course of seven days, a patient of Corda's developed a slight opacity on or beneath the anterior capsule, resembling a semi-transparent disk in the center of the lens with an irregular space between its edge and the margin of the iris. On suspension of the drug and without further medication, the opacity cleared up.

Iris.—The subject of tuberculosis of the iris is carefully considered by Prof. Grosz.¹¹ The affection is described under two forms: (1) A yellowish-grey tumor which later assumes a reddish color is developed at the root of the iris. There is iritis with posterior synechiæ and the appearance of a triangular precipitate on Descemet's membrane. The tumor eventually perforates, usually in the region of the limbus; it is to be differentiated from a gumma, which is

situated on the pupillary margin, and from a sarcoma, which is not accompanied by precipitates or adhesions of the pupillary margin. The second form is simply a miliary tuberculosis of the iris. The course is essentially chronic, and may terminate in occlusion of the pupil, secondary glaucoma and phthisis bulbi. Both forms occur in youth. Enucleation is recommended in solitary tubercle, tonic internal medication in the disseminated type.

Choroid.—Metastatic carcinoma of the choroid is discussed by Oatman,¹² who reports an additional case. The literature contains thirty cases which are considered genuine. There were twenty-two female and twelve male cases, the preponderance of females being due to the fact that twenty of the primary growths were situated in the breast. Both eyes were involved in ten cases. The typical shape is a flat discoid thickening of the choroid with a central elevation of two or three millimetres, gradually sloping off to a thin periphery. The deposit always occurs near the point where a short ciliary artery enters the globe. Vision is destroyed in about five weeks from the appearance of the first eye symptoms. Tension is increased in one-third, normal or diminished in two-thirds of the cases. The average duration of life after the appearance of the first eye symptoms is six and a half months. Enucleation has appeared to increase the activity of the cancerous process and should only be performed when the eye is painful or glaucomatous. Removal of one eye is of no value in preventing a deposit in the fellow eye.

Retina.—An effective therapy in detachment of the retina is very far from being realized, notwithstanding the claims of enthusiastic supporters of new methods. The operative method of Deutschmann, which a year or so ago was regarded with some favor, was violently attacked at a meeting of the Hamburg Medical Society in April, the general feeling being that the operation did more harm than good. The special dangers are infection, hemorrhage and the production of cataract. The value of subconjunctival injections is still *sub judice*. Temporary improvement has certainly followed their employment. In a case of retinal detachment in an eye myopic nine dioptries (the fellow eye being amblyopic) Mueller¹³ performed the following rather formidable operation: Having resected the outer orbital wall, after Kroenlein's method, he incised the orbital periosteum, laid bare the rectus externus and inferior oblique and severed them. A strip of sclera at the outer side of the globe was excised and five sutures inserted in the margins of the cut. A knife was then introduced through the lower angle of the scleral wound, thus evacuating the subretinal fluid. The retina became reattached, the field of vision became normal and vision rose to "fingers at three metres" (a small central scotoma preventing still greater improvement). In fracture of the base of the skull and in subarachnoid hemorrhage Fleming¹⁴ found retinal hemorrhages the rule and regards them as of considerable diagnostic importance in this condition. In certain cases of atrophic retinae, retinitis pigmentosa, retinal degeneration in high myopia and in choroiditis and tobacco amblyopia, Doyne tried the experiment of feeding the patient with raw retinae of sheep and oxen, giving from six to nine daily, and found positive improvement in function.

Optic Nerve.—Mayeda¹⁵ describes a membranous formation of connective tissue at the disk and adjacent portions of the retina, which he regards as a congenital remnant of the connective tissue around the hyaloid artery. A case of cerebral tumor unaccompanied by choked disk is described by Anna. At autopsy

the right frontal and temporal lobes were found softened, the cavities being surrounded by gliomatous infiltrations. This formation of cavities, by preventing an increase in the intracranial pressure, accounts, according to the writer, for the absence of papillitis. Sachsaler describes a case in which a choked disk developed six days after the successful evacuation of a cerebral abscess. The case, in the writer's opinion, speaks for the theory of toxic origin of choked disk. Nicolai¹⁶ has discovered a band of fibres encircling the head of the optic nerve, which, judging from the form of the individual cells and their tinctorial reaction to v. Gieson's stain, is thought to be a band of smooth muscle fibres.

Sympathetic Ophthalmia.—Nothing positively new with regard to the etiology of sympathetic disease has appeared in the past year. Roemer regards the disease as due to an infection pathogenic for the eye only which reaches the fellow-eye by metastasis. Pusey suggests that the lining cells of the ciliary process and iris may give rise to a specific cytotoxin, which, circulating in the blood, picks out the corresponding cells of the fellow-eye. With reference to therapy, two interesting cases are reported by Valois,¹⁷ in which a solution of cyanate of mercury injected into the orbital tissue after enucleation of the offending eye resulted in perfect cure after other means had failed.

Glaucoma.—Levison demonstrated in many eyes affected with primary glaucoma proliferation and condensation of the connective tissue in the ciliary body, thus altering the position of the iris and mechanically obstructing the spaces of Fontana.

Injuries.—Ramas records an unusual case of prolapse of the lachrymal gland through a cut three cm. long just below the supraorbital ridge. The gland was replaced and the structures about it sutured. No reaction followed, and the patient was discharged at the end of a week with glandular function unimpaired. Salzmann¹⁸ observed a rupture of the optic nerve following a gunshot wound of the temple. The rent extended longitudinally and could be traced twelve D. (four mm.) behind the fundus level. The horrible results that may attend the unskilful use of the obstetrical forceps is well illustrated in a case reported by Koppen, in which the instrument completely evulsed the globe. Fejer notes the disappearance of the iris and dislocation of the lens into the vitreous *without injury to the sclera*, following a fall on the eye. In some injuries of the cornea, trophic phenomena which resist antiseptic medication, give rise to much irritation. In such cases Roque has found aspirin of service. Schwarz outlines his treatment in injuries of the eyes by chemicals: Use as soon as possible a chemical antidote, and then irrigations with water; when the agent is an alkali, use acetic acid, one per cent., or dilute hydrochloric or citric acids; when an acid, two per cent. solutions of carbonate of soda; when a salt, olive oil.

Operations.—The operation of couching (depression of the opaque lens into the vitreous), which for many years has been relegated to the limbo of outworn surgical procedures, has recently been revived and its indications formulated. These are, according to Bourgeois, (1) when an expulsive hemorrhage is liable to occur, (2) when there is grave danger of infection, (3) in patients with little self-control, such as the insane, and (4) in patients in whom coughing or other involuntary efforts may appear. The operation is contra-indicated in soft cataracts and in glaucomatous eyes. Preliminary iridectomy is regarded as an important essential. Every ophthalmic surgeon has encountered cases of senile

cataract in eyes affected with a chronic conjunctival discharge which persisted despite the most vigorous treatment. Operation under these circumstances is at best rather hazardous and any procedure which tends to minimize the danger of infection is sure to be welcomed. In such a case Ellett¹⁹ incised the conjunctiva around the cornea as if for an enucleation, dissecting it upward and downward with a blunt probe. The lens was then rapidly extracted by the combined method. The edges of the conjunctiva were drawn together over the cornea and united by horizontal sutures. Iodoform was dusted thickly on the line of union. The eye was irrigated with boric acid every hour. The stitches were removed on the fourth day, the conjunctiva retracting sufficiently to expose one-fourth of the cornea. The corneal wound was found closed and atropine was instilled. Three days later the cornea was entirely exposed, and the conjunctiva had become reattached in its normal position.

It has long been recognized that the concave socket after simple enucleation does not form an ideal bed for the support of an artificial eye. The past year has been very prolific in the invention of operations designed as substitutes for the classical operation. Clarke unites the external rectus to the lower margin of the conjunctival opening, the internal rectus to the upper margin, and finally passes two sutures through the upper and lower margins of the conjunctival opening. Snell unites the externus to the internus, then the superior to the inferior rectus. The conjunctiva is united by one or two sutures. "Section of the eye" is proposed by Hall. The front of the globe, including the ciliary body, is removed, section being made twenty-five mm. behind the sclero-corneal junction. The vitreous is evacuated, the retina and choroid removed with a curette. A circular incision is made in the sclerotic as close as possible to the nerve, which is drawn forward and divided. Sclerotic and conjunctiva are closed vertically in order to preserve the normal tension of the lateral recti muscles. Nicati removes the posterior half of the globe up to the insertion of the recti tendons, after division of the internus. [The preservation of the ciliary region and cornea intact would hardly afford immunity from sympathetic disease.—Ed.] Barraquer implants a ball of fat taken from the gluteal region in the orbit, and sutures the conjunctiva and recti tendons over it. Suker and Ramsey give the technique of paraffine injections into Tenon's capsule after enucleation. Oatman uses a paraffine ball in place of the glass globe in Mules' operation, his object being to use a material that may be partially removed in case a fistula should develop. Maxwell has further developed his operation to enlarge a contracted socket. A semilunar flap of skin is dissected up from the cheek just below the eye, except at the center. It is then passed through an incision in the lower part of the socket, and sutured in position.* Wood has practiced exsection of the tarsal cartilage in cases of old trachoma not amenable to other forms of treatment. Peritomy (excision of an annular strip of conjunctiva adjoining the cornea) has proved of great value in Snell's hands in a variety of inflammations of the cornea.

Therapy.—In scotoma scintillans of retinal origin the pain is located just above the eyebrows. In such cases Capauner has permanently relieved the symptoms by means of ocular massage. In vernal conjunctivitis Terson recommends a two and a half per cent. ointment of yellow oxide of mercury in lanolin or oil of vaseline. Protargol, cocain, suprarenal extract and the treatment of associated nasal affections are useful adjuvants. The masses may be removed

by galvano-puncture. Internally, arsenic is of service. It is to be hoped that the excellent result following the use of the x-ray (case reported by Allport²⁰) may lead to the adoption of the method in other cases. The favorable results of radiotherapy in trachoma have been dwelt upon by a number of authors. Mayou notes disappearance of the granules, leaving a supple, non-scarred, non-contracting conjunctiva. Stephenson and Walsh,²¹ in a series of cases treated only one eye, the fellow being left untreated as a control. In every case the eye exposed to the rays rapidly improved, the fellow eye remaining *in statu quo*. Stephenson also has used radiotherapy with complete success in a case of tuberculosis of the conjunctiva. Three cases of epithelioma of the eyelids were successfully treated by Sweet.

Sodium salicylate in large doses (gr. 1 to each pound of body weight every day) is strongly recommended by Gifford²² in non-specific iritis, cyclitis, scleritis, episcleritis, acute retrobulbar affections of the optic nerve, sympathetic ophthalmia, traumatic iritis or cyclitis, interstitial keratitis and herpes cornea. The factors explaining the drug's action are (1) local depletion due to general capillary dilatation; (2) secondary diaphoresis. The drug is also highly praised by Gradle. Hetol, in 1 per cent. to 5 per cent. solution, is very efficacious in various affections of the cornea, according to Lezenius. In two cases of tubercular iritis Handmann²³ obtained a permanent and complete cure by injecting tuberculine in the forearm. Corneal cloudings are greatly benefited by dionin. V. Arlt reports five cases under treatment from three to twenty-one months, all of which were greatly benefited, and in some vision was restored to normal. Jacqueau recommends methylene blue 1-1000 in affections of the cornea, in blennorrhœa, and as a prophylactic in variola. Cuproceitrol is favorably regarded by Bock in the stage of pannus and scar formation in trachoma. Constantinesco²⁴ reports the flattening of recent total corneal staphylomata after extraction of the lens. Trousseau has used 15 per cent. ungt. collargol inunctions in suppurative choroiditis, puerperal sepsis, apparently beginning panophthalmitis in pneumonia, and in iridocyclitis after extraction, with excellent results after other means had failed. The increased efficiency of atropine when combined with adrenaline is well known. Mengelburg²⁵ calls attention to the fact that the combination may produce poisoning when atropine alone does not. MacCallum²⁶ notes increase in tension in five cases of glaucoma after the instillation of adrenaline. Salomonsohn finds that 3 per cent. scopolamine is equivalent to 15 per cent. atropine in efficiency, and recommends it to rupture firm adhesions in iritis. In optic atrophy and retrobulbar neuritis Shiele has used with good results a 5 per cent. solution of sodium iodide hypodermically in the temporal region. To dissolve the calcium carbonate and phosphate found in many old corneal lesions, Mazet²⁷ employs an aqueous solution of lithium benzoate. In the tardy manifestations of ocular syphilis Abadie has found intravenous injections of cyanide of mercury incontestably superior to other methods of mercurial medication.

Pathology.—Parson²⁸ wounded a monkey's retina with a Graefe knife. After three weeks the optic nerve treated by the Busch-Marchi method showed the following: (1) the degenerated fibres retain the same position along the entire course of the nerve; (2) there are always homonymously situated degenerated fibres in the opposite nerve which are probably collaterals of the injured side; (3) macular fibres pass from the temporal side to the centre of the nerve; (4)

there is degeneration in both tracts; (5) fibres spread out farther back in the tract. The star-shaped figure at the macula in albuminuric retinitis is thought by Koppen to be due to exudates and old hemorrhages between the radiating fibres. Wessely's²⁹ experiments tend to disprove the alleged lymphagogic influence of subconjunctival injections. He finds that injected solutions are rapidly diluted by transudations of water from the conjunctival blood vessels, that they do not accelerate the osmotic current of the anterior chamber but act reflexly on the ciliary vessels to increase the amount of albumin in the anterior chamber. Graflin³⁰ believes that the corneal endothelium plays an important role in the physiology and pathology of the cornea. Parenchymatous keratitis, clouding of the cornea after secondary glaucoma, iritis and iridocyclitis depend on an affection of the endothelium. Panas discusses dermoid oily cysts, which are located in the prelacrimal region of the orbit or at the external angle. The sac is smooth, tense and fluctuates and contains oleaginous material. The deepest portion is true skin, often adherent to the periosteum. The superficial portion is thinner, lacking in epithelial elements. The following points of interest with regard to primary extradural tumors of the optic nerve are noted by Parsons:³¹ The disease begins, as a rule, before the age of ten, the most prominent symptom being exophthalmus. Failure of vision is slow and is accompanied by choked disk, to be followed by post-neuritic atrophy. Nearly one-half of the recorded cases were endotheliomata. Growth is slow and malignancy is comparatively slight. In view of this fact, Kroenlein's operation with retention of the globe is usually indicated.

Eye and Nose.—According to Axenfeld orbital inflammations originate chiefly in the periorbital nasal sinus. In chronic frontal sinusitis, the radical operation should be performed after an evacuation of pus through an incision along the eyebrow. In acute sinusitis, the original trouble may have healed and hence does not require any interference. The infection is probably conveyed along the emissaries of the bones. Injury to the superior oblique is reported by Quintela in trepanation of the frontal sinus by Luc's method. The fact that paraffine injections for the correction of nasal deformities are not devoid of danger is illustrated by the case reported by Hurd and Holden.³² In this case the paraffine was introduced into a vein and was followed immediately by blindness. Ophthalmoscopic examination showed general bloodlessness of the retinal arteries: *i. e.*, embolism of the central artery. In spite of immediate and energetic treatment the condition failed to improve. Pollatsek reports a case of atrophy of both optic nerves due to extensive syphilitic destruction of bone in the sphenoidal antrum.

Eye in General Disease.—Mandonnet reports a case of paralysis of the soft palate and of accommodation after a severe attack of parotitis. Chance enumerates the following ocular complications of variola: corneal ulcer, pustulation of the lid borders, pustules of the lachrymal passages, periostitis with caries of the orbital borders, parenchymatous keratitis and serous iritis. Surgical treatment in Basedow's disease offers a better prognosis than any other form of therapy. Kocher operated fifty-nine cases of true Basedow's disease with complete cure in 76 per cent. and decided improvement in 14 per cent. The operation is performed under cocaine anesthesia when the cardiac and psychical irritability is at a minimum. Gilfillan³³ observed a panophthalmitis developing on the twenty-sixth day of typhoid fever. Marcel says that the amaurosis which

occasionally follows measles may be transitory or permanent. In the case reported, blindness developed during convalescence and was found to depend on grave alterations in the retina which finally came to have an appearance closely resembling that of retinitis pigmentosa. Terson observed unilateral detachment of the retina in two cases of severe tertian malarial infection. The eye changes in ankylostomiasis consist, according to Nieden, in pallor of the conjunctiva, a peculiar lustre of the sclera, white disk and retinal hemorrhages (situated mostly in the periphery of the retina). Weil examined the eyes of sixty-one inmates of a prison affected with scurvy and found ocular complications in five. In three cases optic neuritis, in two macular retinitis. De Schweinitz²¹ calls attention to the changes in the eyeground in arterio-sclerosis and hence in many cases of nephritis. These changes include (1) undue tortuosity and beading of the retinal arteries; (2) increased distinctness of the central light streak, loss of translucency, anatomical changes in the arterial walls; (3) undue tortuosity and beading of the veins and impeded venous circulation where a diseased artery crosses the vein, and anatomical changes in the walls; (4) edema of the retina; (5) retinal hemorrhages.

New Instruments.—Jannsen has constructed a siderophone (described by Widmark) to aid in the detection and location of iron or steel particles within the globe. When the instrument is approached to an iron splinter, a sound is heard in a telephone receiver. The instrument is less delicate than the sideroscope, but is more convenient. Galiano has devised an oval perforated silver tube for use in irrigating the conjunctiva in ophthalmia neonatorum. An instrument somewhat resembling a banjo bridge has been devised by Jackson to measure the prominence of the globes. Priestley Smith's balance for knife testing consists of a see-saw, one arm bearing the ordinary drum covered with kid, the other marked in grams and carrying a sliding weight. To test the point of a knife the drum is placed with the leather horizontal. The weight is moved down the scale until the point gently pressed down in the transverse diameter of the drum-head, persistently punctures the leather. To test the edge, the knife is passed through a slit in the leather placed vertically, and the weight moved down until gentle pressure cuts the kid, instead of depressing the arm bearing the drum-head.

Miscellaneous.—The second case on record of unilateral quinine amblyopia is reported by Westhoff. After observing an eclipse with the unprotected right eye a patient of Winselmann's developed ocular pain followed by the appearance of central scotoma. Vision was reduced to "fingers." Ophthalmoscopically was seen a dark red spot near the macula. The wearing of yellow glasses has been found experimentally to increase by one-third the accuracy of artillerymen in all sorts of weather and under different degrees of illumination. Spiller notes three cases of paradoxical reaction of the pupil which became smaller on fixing a far object, larger on fixing a near object, and when the globe was turned down and in (the fellow eye being covered). Spiller does not believe that this anomaly is necessarily indicative of nervous disease and can offer no satisfactory explanation. In cases of tobacco-alcohol amblyopia De Schweinitz and Edsall noted a more or less marked urobilinuria. With the disappearance of enterogenous decomposition products vision invariably improved. They believe that a persistent amblyopia may depend on a secondary nutritive disturbance.

Schoute notes paresis of accommodation in a patient, who had been put on cinchonine because of an idiosyncrasy for quinine.

The possibility of some improvement in the vision of eyes amblyopic from disuse, either when the necessity for improvement in vision has obtained (as in the loss by accident of the fellow eye) or from persistent practice with the amblyopic eye, has formed the basis of a number of papers (Buchanan, Friedenwald). Gunn classifies functional or hysterical amblyopia in two divisions: (1) idiopathic, occurring usually in women, rarely in children; (2) traumatic, which may obtain in both sexes, but always in adults. Delayed visual consciousness in very young children may be due to the retarded development of higher association fibers. In adults the condition is to be explained on the assumption of a temporary loss of the power of conduction between the lower visual centers and the conscious centers and may be an obscure early sign of real organic disease. A unique case of amaurosis from mushroom poisoning is recorded by Giulio. There was pain on moving the globes, vision was reduced to light perception and the pupils were dilated. Ophthalmoscopically the disks were found anemic, the arteries shrunken, the veins distended. Under tonic and roborant treatment internally vision finally recovered to three-tenths.

Among the books on ophthalmic and related topics appearing during the year may be mentioned the following: "The Theory of Skiascopy," by Dr. Theodor Wolff; "A Biography of Hermann v. Helmholtz," by Leo Koenigsberger; a "Treatise on Disease of the Eye, Nose, Throat and Ear, for Students and Practitioners," by various authors, edited by William Campbell Posey and Jonathan Wright; "Grundriss der Pathologischen Histologie des Auges," by Dr. S. Ginsberg; "Development of the Vitreous Body," by Dr. M. v. Lenhossek; "Ocular Therapeutics," by Dr. A. Darier, translated by Sydney Stephenson; "Die Blindenverhaeltnisse bei der Lepra," by Dr. med. Lyder Borthen; "Squint, Its Causes, Pathology and Treatment," by Claud Worth; "Refraction and Motility of the Eye, for Students and Practitioners," by William Norwood Suter; "Collected Essays on Physiological Optics," by Arthur Koenig; "Ocular Therapeutics," by Dr. Victor Hanke; "Injuries of the Eye by Gunshot," by Dr. Lindenmeyer.

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EDITORIAL COMMENT.

MEDICAL PROGRESS NUMBER.

There appear each year in Germany collections of abstracts in medicine and in some of the specialties, called Jahresberichte. Into these huge volumes are massed together, with absolutely no critical selection abstracts of all articles that have appeared during the year just passed. For bibliographic purposes such collections are invaluable, but they do not serve to indicate in any way the line of progress nor do they point out the papers which have contributed to the advance, if advance there be, in any given department of medicine.

From such a collection some mind trained in critical analysis and whose authority would stamp his opinion with a certain value, might pick here and there such contributions as appear to him to be of greater importance than the rest and show wherein progress has been made. Critically trained minds are rare and those who have them find little enthusiasm for work of this sort. For, unlike literature in general, medical literature has found no place for the professional critic. In this way minds of a less notable sort are engaged from time to time in this process of weeding the bad from the good, the striking from the ordinary, and in a more modest fashion present the progress of a year's work in their special departments. To allow the work of one year to filter through their consciousness keyed to as critical a pitch as possible and with an equally generous inclination to be fair and discerning is their task. From some such standpoint as this the reader is asked to consider the progress papers here presented, and he is also asked to remember that criticism, after all, is a most personal art and the more untrained the critic is the more personally representative are his opinions likely to be. To determine what progress is, to separate a piece of work from

the glamour which may surround the name of its author, to choose between what perhaps may be new but useless and what is old but confirmative, are tasks which the stoutest medical heart might shrink from, and it is only through a realization of the difficulties that such work carries with it that a fair judgment of these reviews can be arrived at. It must likewise be remembered that medical articles are written, published and widely quoted for the matter of that, without possessing one element that justifies either their existence or reference to them.

The number of medical journals has become so large that to fill their columns the legitimate productive powers of medical writers are taxed many times over. To provide material for these empty columns papers are written by men whose names should stand for better things, solely to fill a given amount of space. So there is to aid the critical reviewer no standard of higher journalism as there is with literature in the other sciences and no assurance that a good name will mean a good paper. In view of these things it is little wonder that the wavering line of progress is often lost sight of amid the ruck, and less strange is it that no two men would pick out a path in the same direction, nor would they make it out of the same material.

It is well to consider the purpose behind the attempt to present in a few pages the essence of this large amount of human activity and to consider also what is meant or rather what may be meant by progress as it is used to indicate the special purpose of this second January number. There are at least two sources of appeal in the mind of every man whose activities find in medicine their legitimate outlet. There is the desire to know how much the knowledge of medicine has been increased, and there is the pride he feels at such an increase. It is to satisfy in some measure these two tendencies that a review of the advance in knowledge in a certain given interval of time is of value. To know that medicine in general and its departments are richer in available data founded upon correct observation and interpretation of facts is a source of satisfaction quite apart from one's own individual efforts whatever they may be towards this end. To set down at the end of each year the results of widely scattered workers in different parts of the world, and to indicate by name such of them who have contributed most to this advance, gives to one far removed from personal contact with this activity a sense of fellowship in the work which nothing else will. It matters little if this piece of work or if this or that name is omitted or unduly emphasized. For the moment, at least, what is set down is the actual thing, and as a good story is always true as long as the telling of it lasts, so these reviews are true as long as the reader of them chooses to believe them so. To define what is meant by progress is a very difficult matter and one so illusive that it almost escapes our means of identification. Knowledge is added to by no known laws and there is no known unit of measurement of its advance. The much vaunted truth of to-day may be the jest of tomorrow, and the scorned theory of to-day may be the known fact of the future. Many a forgotten piece of work passed over in these reviews as unworthy of mention may be the beginning of an inquiry destined to bear fruit in the future. There is no permanency in the results of human effort, but there is in the way such efforts are brought about. Progress, that is the true progress, is nothing else than an improvement in method, and we must look for evidence of this progress, not in the facts which are set down, but in the spirit and the method which these facts are conceived. Facts exist as units with no continuity of existence; method, however, possesses the quality of inherited tendency and transmits from one set of workers to another and from one generation to another the materials out of which advance comes about.

In some such spirit as this these reviews are given to those who care to read them, and if they present some little evidence of this broader conception of the meaning of all this human endeavor it will repay many times over the effort made in producing them.

BOOK REVIEWS.

VADMECUM DER GEBURTSHILFE FUER STUDIERENDE UND AERZTE. VON PROFESSOR DR. M. LANGE. Mit 118 Abbildungen. Dritte, vermehrte und umgearbeitete Auflage. Wuerzburg: A. Stuber's Verlag. (G. E. Stechert, New York.).

There is an essential difference between the average American and German "Vademecum" or "Quiz-Compend." In both cases we have to deal with a little book that may be easily carried in the coat pocket, but while the American editor obtains the compact size by "eliminating everything not essential," the German editor reduced the size of his volume by using small and closely set type.

To read the little volume before us, undoubtedly means a hard strain upon the eyes, but it is quite remarkable to see how much valuable information is given in these few pages, notwithstanding the fact that there are 118 good illustrations.

The teachings of the writer are up-to-date in every detail.

THE AFTER-TREATMENT OF OPERATIONS. A Manual for Practitioners and House Surgeons. By P. LOCKHART MUMMERY, F. R. C. S. William Wood & Company, New York. 1903.

The after-treatment of operative cases is a subject of such importance that it is surprising to find how little has hitherto been written about it. What has been written is to be found, for the most part, in a somewhat fragmentary form in the larger text-books, and is not convenient for reference. Thus it can be easily seen that the little volume before us fills a recognized want for a ready reference. The author avoids entering into any discussion upon the relative value of the different forms of treatment adopted by different authors, but gives for each case just that line of treatment which in his experience is the most practical one.

Each chapter is devoted to the consideration of the typical operations of a certain part of the body, considerable space being given to the operations on the abdomen. The author's teachings are apparently based upon an extensive personal experience and upon sound judgment, and seem, as a whole, very acceptable.

INTERNATIONAL CLINICS. A quarterly of illustrated clinical lectures and especially prepared original articles by leading members of the medical profession throughout the world. Edited by A. O. J. KELLY, A. M., M. D. Vol. iii, thirteenth series, 1903, pages viii-305. Illustrated. Philadelphia: J. B. Lippincott Co. 1903.

The most recent issue of the International Clinics follows along the same lines as its predecessors. The feature of the volume is a series of articles on diseases of the gall-bladder and gall-ducts, in which this subject is adequately discussed from several points of view. Among the other articles of special interest may be mentioned an enthusiastic defense of the serum treatment of typhoid fever by Dr. Chantemesse, of Paris, and an article on atypical forms of pneumonia by R. M. Leslie, of London. The illustrations are of the high degree of excellence that one has learnt to expect from this publication, four colored plates illustrating microscopic sections of rheumatic "carditis" being particularly beautiful.

THE REFRACTION AND MOTILITY OF THE EYE. For Students and Practitioners. By WILLIAM NORWOOD SUTER, M. D., Assistant Surgeon, Episcopal Eye, Ear and Throat Hospital, Washington, D. C. Illustrated with 101 engravings in the text and four plates in colors and monochrome. Lea Brothers & Co., Philadelphia and New York. 1903.

The need of a short and at the same time comprehensive treatise in the English language on the allied subjects of the Refraction and Motility of the Eye has long been felt, and it may be said that Dr. Suter has succeeded admirably in filling this gap in ophthalmic literature. The work is divided into four parts: Part I (Chaps. I-VIII) deals with the Theory of Refraction, Part II (Chaps. IX-X) with the Refraction and Motility of the Normal Eye, Part III (Chaps. XI-XVI) with Errors of Refraction, Part IV (Chaps. XVII-XVIII) with Disorders of Motility. The mathematical formulæ dealing with the theory of refraction have been abridged, and are entirely intelligible to one having a knowledge of elementary algebra and trigonometry.

Dr. Suter possesses a precise and careful style which enables him to express himself at all times with clarity and distinctness.

The book is singularly free from typographical errors. Page 228, fourth line from the bottom "defective" is spelled "defective." Some of the geometrical figures illustrating the mathematical demonstrations are drawn to so small a scale that it is difficult to follow the explanations in the text. This is especially true of the figure on page 49, illustrating the algebraic relation between conjugate foci.

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ORIGINAL ARTICLES.

WHAT VALUE HAS THE KNOWLEDGE OF PSEUDO-HERMAPHRODITISM FOR THE PRACTITIONER?

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In the embryo the germinal center of the sexual ducts—the excretory ducts of the products of the sexual glands—is bisexual in as much as every embryo possesses both Wolffian and Muellerian ducts. The germinal center of the sexual glands—*Keimdruesen*—is apparently not differentiated in the first weeks of fetal life, so that they may develop into either ovaries or testicles; or indeed they may remain in a rudimentary condition so that not even the microscope can answer the question in what direction their further evolution would have taken place. Such individuals are hence asexual, or as Virchow terms them—*homines neutrius generis*.

The sexual glands, therefore, develop in one direction—either they become testicles or they become ovaries. The presence of both ovary and testicle in the same individual has been frequently asserted, but the cases reported thereof (Heppner, Schmorl, Obolonsky, Blacker-Lawrence) have not stood the test of closer microscopical examination. Until lately, therefore, the simultaneous occurrence of testicles and ovaries, or rather of one testicle and one ovary, was not recognized by the majority of investigators. Theoretically no one can deny the possibility of one gland developing into an ovary, the other into a testicle, or even that on each side an ovary and a testicle should develop; yet in practice no case of this kind could be confirmed by the microscopical findings. On the other hand, two very important observations have been recorded in which in the same sexual gland one part showed the structure of a testicle, the other the structure of an ovary. These observations were made by v. Salen and Professor Garre (the latter case described by Simon). These two cases must all alone overthrow the previous, almost universal, idea that no case of true hermaphroditism had as yet been observed in man. But such a joint appearance of ovarian and testicular elements in one gland—ovotestis—is far from proving the postulate that one and the same individual is capable of impregnating another and also of conceiving. In neither case was the ovarian or testicular tissue so far developed

that it could have functionated. As long as the occurrence of such so-called "Zwitterdruesen"—ovotestes—was denied as well as that of sexual glands of opposite sex in the same individual, one could put aside the former division into *hermaphroditism lateralis* (on one side a testicle, on the other an ovary); *hermaphroditism unilateralis* (on one side a testicle and an ovary, on the other, either a testicle or an ovary); *hermaphroditism bilateralis* (on each side both testicle and ovary). Nowadays, however, this point of view has been changed.

If we except the two solitary observations just mentioned which represent a true anatomical, if not a functional hermaphroditism, there remains on the opposite hand the whole category of pseudo-hermaphroditism, a condition which, moreover, is far more frequent than is generally accepted. I have been able to collect thus far not less than 930 single observations in the world's literature, of which 38 cases are my own.

Pseudo-hermaphroditism is characterized by the paradoxical occurrence that the sexual ducts and the external genitalia do not develop according to the same type as the sexual glands of the individual, but according to the opposite, hence heterosexual type; or, on the other hand, both male and female generative organs may develop, the one more, the other less completely. The external genitalia at the same time develop either in accordance with the sexual gland or contrary thereto, hence heterosexual.

The evolution of the male generative organs *per excessum* usually goes hand in hand with that of the female generative organs *per defectum* or *vice versa*; or, again, only those sexual ducts that do not correspond to the sexual gland attain development. With comparative frequency do we find the development so tardy that even the microscope is unable to affirm positively either a male or female character to the sexual gland; how much more impossible is it, therefore, in such a case for the physician to determine the sex—neither sex predominating—since sex is solely to be determined from the anatomical character of the sexual gland.

Waldeyer speaks of the germinal center of the sexual glands as bisexual; Benda as feminine, since the masculine type presents itself as a development of the feminine type, modified partly progressively, partly retrogressively. Siegenbeck van Heukelom proposed to differentiate between glandular and tubular hermaphroditism. The glandular form consists of the appearance in one and the same individual of sexual glands of opposite type, thus: two testicles and two ovaries, or one testicle and one ovary, etc. Tubular hermaphroditism consists in the simultaneous development of both Wolffian and Muellerian ducts or of only that duct that does not correspond to the sexual gland; hence the vasa deferentia in the presence of ovaries, and the ducts of Mueller in the presence of testicles. The external genitalia may be primarily

undifferentiated, developing either wholly according to one or wholly according to the other type. The essence of pseudo-hermaphroditism lies, therefore, as aforesaid, in the paradoxical incongruence of the sexual glands on the one hand, and the sexual ducts or external genitalia on the other.

A general knowledge of the embryology of the human genito-urinary system is taken for granted. The following table will, however, serve to make clear certain points:

COMPARATIVE EMBRYOLOGICAL TABLE.

MALE GENITALIA.	UNDIFFERENTIATED FETAL GENITO-URINARY ORGANS.	FEMALE GENITALIA.
Testicles (Ampulla seminales canaliculi seminiferi).	Germinal epithelium (sexual gland).	Ovaries (Graafian follicles).
(a) Epididymis, rete testis, tubuli recti, vasa efferentia, testis, hydatid pedunculata epididymidis.	Urnere (Wolfian body = mesonephros). (a) Upper portion = pars sexualis.	(a) Epoochoron (parovarium) (Rosemueller's organ) Markstraenge of the ovary, rete ovarii and hydatid pedunculata ovarii.
(b) Paradidymis (Giraldi's organ, vasculum aberrans Halleri).	(b) Lower portion = pars meta-nephrotica.	(b) Paroochoron.
Tail of epididymis on both sides, vasa deferentia, seminal vesicles, ejaculatory ducts.	Wolfian ducts.	Malpighi-Gartnerian ducts, running centripetally in the broad ligaments, entering the lateral walls of the uterus at or slightly above the internal os, and running along this region up to the vaginal portion of the uterus, where several lateral branches analogous to the seminal vesicles are given off, then running along in the lateral vaginal walls and converging in the anterior vaginal wall to the urethral orifice. Both ducts are normally absent, but occasionally, however, by partial persistence to cyst formation.
Hydatid sessilis testiculi of both sides, prostatic sinus in the caput gallinaginis (utricle masculinus vesicula prostatica).	Muellerian ducts.	Tubes with fimbria and hydatid of Morgagni, uterus, vagina.
Kidney.	Metanephros. (Permanent kidney).	Kidney.

COMPARATIVE EMBRYOLOGICAL TABLE—CONTINUED.

MALE GENITALIA.	UNDIFFERENTIATED FŒTAL GENITO-URINARY ORGANS.	FEMALE GENITALIA.
Hunter's gubernacula.	Ligament of Urniere.	Ligamenta rotunda uteri, lig- amenta ovariorum propria.
Pars membranacea urethræ. Sinus urogenitalis.		Vestibulum vaginæ.
Penis.	Genital tubercle.	Clitoris.
Scrotal sack.	Genital arches.	Labia pudendi majora.
The lateral walls of penis and urethra and the corpus cavernosum urethræ.	Genital folds.	Labia pudendi minora, the so-called bride masculine, bride penienne, the shining band of tissue running from the urethral orifice to the base of the clitoris.

FURTHER HOMOLOGIES.

Corpora cavernosa penis = Corpora cavernosa clitoridis.

Glans penis = Glans clitoridis.

Præputium glandis = Præputium clitoridis = superior branch of the bifurcation of labia minora.

Frenulum præputii glandis = Frenulum clitoridis = inferior branch of the bifurcation of labia minora.

Bulbus urethræ = Bulbi vestibuli.

Glandulæ bulbo-urethrales Cowperi = Bartholinian glands.

Prostate = Skene's ducts.

Lacunæ Morgagni = Lacunæ Morgagni.

Seminal vesicles = Outgrowths of the Wolffian ducts in the lateral walls of the cervix uteri.

Littre's glands = Glandulæ minoris vestibuli (cryptæ juxta urethrales).

Urethra { Pars proximalis vesicæ = Urethra.
Pars prostatica = Urethral orifice.
Pars membranacea = Vestibulum vaginæ.
Pars cavernosa = Groove along lower surface of clitoris.

Plica cutanea sinus prostatici (veru montanum) = Hymen.

Sinus prostaticus = Vagina.

Vasa deferentia = Gartner's ducts.

The hydatid sessilis testis Morgagni, according to Fleischl, Loewe and Waldeyer, corresponds to the peripheral end of the ducts of Mueller.

The hydatid of Giraldi (hydatid pedunculata epididymis), according to Siegenbeek van Heukelom, corresponds to the peripheral end of the tube.

S. Pozzi regards the labia pudendi majora as analogous to the "*conche superficielle*" of the scrotum, the labia minora as analogous to the "*conche profonde*" of the scrotum.

For practical purposes it is advisable to retain the old subdivisions of pseudo-hermaphroditism adopted by Klebs: Masculine pseudo-hermaphroditism (androgynoid formation) and feminine pseudo-hermaphroditism (gynandroid formation). Pseudo-hermaphroditism can be either internal, external or complete.

1. PSEUDO-HERMAPHRODITISMUS FEMINUS.

(a) *Internus*.—External genitalia, female, normal; ovaries present; uterus, tubes and vagina (ducts of Mueller) well-developed or more or less rudimentary; side by side more or less rudimentary or fully developed internal male genitalia, such as vasa deferentia, prostate, seminal vesicles. (This form of pseudo-hermaphroditism is the rarest of all.)

(b) *Externus*.—A more or less hypertrophied, erectile clitoris, that occasionally is wholly or partially perforated by the urethra, resembling a penis; the more or less completely agglutinated labial folds resemble a scrotum; if, besides this, there appears in one or both inguinal canals or in front of the external ring or in the labial folds a hard body resembling a testicle, it is readily possible for a mistake in sex to occur. Such bodies formed at the above-mentioned places may be ectopic ovaries, hydrocele or hematocele of the vaginal process of the peritoneum or neoplasms of the round ligament protruding beyond the inguinal canal. In some cases the clitoris is merely hypertrophied, not perforated by the urethra or erectile; the vulva otherwise normally formed; the agglutination of the labial folds extending upward to a greater or less degree. Occasionally only one opening representing the sinus urogenitalis or canalis urogenitalis can be detected, the joint opening of urethra and vagina, or the urethra may enter into the vagina or the vagina into the urethra. Such cases can readily be mistaken for a peno-scrotal hypospadias.

(c) *Compleus*.—External genitalia resemble male organs more or less; ovaries present either in the abdomen or misplaced in the inguinal or labial region; beside more or less developed ducts of Mueller there are found on one or both sides structures in greater or less state of development arising from the Wolffian ducts.

2. PSEUDO-HERMAPHRODITISMUS MASCULINUS.

(a) *Internus*.—(This form is far more frequent than the corresponding form in the female.) External genitals normally masculine; in the pelvis, accompanying a more or less defective formation of the internal male genitalia, are found more or less completely developed Muellierian ducts or their derivatives, uterus, tubes, ligaments and a vagina that often empties into the urethra at the caput gallinagis, testicles present either in the scrotal sack, in the inguinal canal or in the abdomen. One or double sided cryptorchismus is the usual accompaniment of cases in

which a well-developed uterus is present. *In such cases the cryptorchismus is regarded as the result of the testicles, lying where the ovaries lie in the female, united with one another by a muscular band of tissue, represented by the tubes and uterus. This band is too short to allow both testicles to leave the abdominal cavity. If one descends into the scrotum it often drags with it the uterus or the tube of the same side; the other testicle remains in the abdomen. Usually, however, with a well-developed uterus both testicles remain in the abdomen.*

(b) *Externus*.—(This is the most frequent form of pseudo-hermaphroditism.) Testicles are present either descended or retained in the abdomen or inguinal canal. Hypospadias of the penis with rudimentary development of that organ; also hypospadias scrotis, and hypospadias penoscrotalis, also termed perinealis, resembling the vulva. Mistakes will occur the more easily if the fissured penis is no larger than a clitoris, and if the sides of the divided male urethra resemble the labia minora. There are cases in which the pubic region of a male hypospadias may so resemble a vulva that no suspicion of an "erreur de sexe" would arise. Usually, only the penis shows complete hypospadias, the scrotum only in its upper portions. In rare cases, however, we may have a normally built penis and a divided scrotum showing a vaginal opening (case of Maude, the only one on record). The internal genitalia in these cases is masculine and either partly or wholly developed, thus vasa deferentia, epididymis, seminal vesicles, prostate, etc., present.

(c) *Compleus*.—Testicles present. Beside the external genitalia, apparently feminine, we find the Wolffian ducts or their derivatives in greater or less part developed, beside a more or less complete development of the ducts of Mueller or their derivatives. The vagina empties usually in the caput gallinagis of the urethra, but may also empty "in scroto fisso" externally and the urethra then empties into the vagina.

A very rare form of malformation are the cases in which there is present a juxtaposition of hetero-sexual external genitalia, where, for example, a vulva is found by the side of a scrotum and penis. Only six of these cases have been reported. Their occurrence is associated usually with division of the lower end of the vertebral column or dipygia. I described an interesting case of this sort in my work on *reduplication of the external genitalia*. My case is a unicum in so far as there was found a rudimentary penis or possibly a hypertrophied clitoris on the perineum beneath a normally formed vulva, thus below the fenulum labiorum majorum. This embryologically puzzling observation occurred in a woman who had borne children.

To these anomalies in the evolution of the genito-urinary system must be added the *variations in the external appearance of the individual* that is at times homologous, at times heterologous to the sexual gland; that is to say, the *secondary sexual characters*, such as size, development of the skeleton, evolution of the pelvis and of the chest; the type of respiration, sometimes abdominal, sometimes costal; the kind of facial expression; the masculine or feminine distribution of hair-development,

the varying quantity of hair on the face, the body, the abdomen, the pubis, the perineum, the extremities; the voice, at times masculine, at times feminine, with the corresponding development of the throat and the characteristic ossification of the thyroid cartilage; the relative size of the extremities; the absence or full development of the breasts; the feminine panniculus adiposus subcutaneus developed to such a degree as to obliterate the contours of the muscles and round off the outlines of the body or the absence of this layer in the male bringing the muscular outlines into prominence; the presence or absence of a cremasteric reflex, etc.

Similar to the secondary sexual characters we may find the *psychic and sexual sensations* either corresponding to the sexual gland or contrary thereto—that is, either *homologous* or *heterologous*. Together with the above peculiar conditions that are of import and interest in the study of pseudo-hermaphroditism must be considered a group of symptoms which are termed *molimina menstrualia* and have heretofore never been considered in any compilation in pseudo-hermaphroditism, but warrant careful investigation.

Pseudo-hermaphroditism is by no means to be considered as a localized embryological anomaly of the genito-urinary system, but the latter are rather to be looked at as a portion of a general deformity as is seen by the great variations in the secondary sexual characters in hermaphrodites. Virchow was the first to call attention to this point. Hence, we can with assurance exclude as the cause of the anomaly in the genito-urinary organs any external agencies influencing development, such as intrauterine amputations or mechanical disturbing influences as in clump-foot, split pelvis, spina bifida, etc. *The cause of pseudo-hermaphroditism in man can only be sought in those centers that determine and regulate development.* Some authors have even gone so far as to say they could distinguish the development of a different sex in each half of the body or of the face; either that the right side was masculine and the left feminine; one breast with mammary gland developed as in a woman, the other with no gland as in a man: the upper part of the body female, the lower male in character, or *vice versa*. It is a problem of the future to investigate these matters more in detail, a possibility only where a large number of cases have been collected, as in my list. Unfortunately in the reports thus far published all these interesting particulars have received but scant, if any, attention.

If we regard pseudo-hermaphroditism from an *embryological* standpoint, it does not seem so remarkable since the various anomalies up to the earliest stages can be explained either as delayed development or excessive development. We have still, however, left unanswered the question: what is the final cause of heterosexual evolution? In all likelihood *nutritive conditions, associated with the arrangement of the arterial blood-supply are an important factor* in this. Moreover, a *psychic influence*

in development cannot be gainsaid; similarly *hereditary influences*, inasmuch as the same malformation, the same kind of hermaphroditism has been found repeatedly in father, son and grandson and in two, three or four children of the same parents.

Of great importance is the variety of *sexual feeling in hermaphroditism*. Sexual life is at times perfectly normal, at times absent, slightly developed or perverted, hence homosexual. In fact, there are some hermaphrodites who have intercourse with both sexes. In many cases the sexual desire was that of a man, then later transformed into that of a woman, or *vice versa*. Krafft-Ebbing proposes the following explanation of homosexual feeling. He distinguishes three subdivisions in the genital apparatus: (a) *sexual glands* with their excretory ducts and copulatory organs; (b) *spinal centers* which work partly quieting, partly exciting and stimulate nutrition, secretion, vascularization, erection and ejaculation; and (c) *cerebral areas* whence originate all the complicated psychosomatic processes that are termed sexual life, sexual sense, sexual passions. These three divisions, joined to one another through nervous channels, are under the closest functional interrelations. The source of all three divisions in man is said to be bisexual. The psycho-sexual center does not develop until after puberty. The sexual glands develop independent of the psycho-sexual center. Normally, only one-half of the bisexual source develops in man, the other is retarded in growth, remains latent. Under certain pathological conditions in rudimentary growth of the sexual glands, either the psycho-sexual center is not at all developed or only that half which should remain latent or has remained latent thus far; that is to say, in the person with testicles, the feminine, and *vice versa*.

In the development of the psycho-sexual center, of psycho-sexual feeling, the greatest influence is played, as experience has shown, by education, example and suggestion, and frequently the character of psycho-sexual feeling of a hermaphrodite depends upon the circumstances and surroundings in which he has been raised. The influence of suggestion and of environment is exhibited in many a case where a male hermaphrodite, raised as a girl, had a feminine sexual desire toward men and, when it was proposed upon finding her sex to be masculine, to compel her to wear male attire and be treated as a man, she exhibited the greatest horror of such a change in her social status and demanded the immediate removal by castration of her sexual glands. In many cases the homosexual desires developed by suggestion in the case of a male hermaphrodite raised as a girl would prove but temporary in so far as sooner or later the true masculine desire for intercourse would suddenly break forth. In very many cases the psycho-sexual feeling is very vague—in fact, not at all fixed—or it undergoes a change once or even oftener. Many hermaphrodites are sexually indifferent, nonchalant toward both sexes, apathetic; others again are libidinous and may die as a result of

sexual excesses. Many have held intercourse with both men and women, even sodomy is reported in the statistics of pseudo-hermaphroditism. Often a masculine hermaphrodite, wrongly married as a woman, would keep in other quarters one or two mistresses, or a person who for thirty-five years of married life held intercourse as a woman, would upon the death of her husband cohabit only with girls.

Of particular interest is the case of Berthold, in Koenigsburg. He recognized male vocal chords in a young girl who consulted him concerning hoarseness, examined the patient from head to foot and established the presence of an inguinal hernia containing testicle and epididymis, hence an "erreur de sexe." The girl received this announcement with great confusion, was greatly embarrassed, would not believe a word of it and did not return again. Seven years later Professor Berthold received an urgent appeal by letter from Marie S. to assist her to change her manner of life to that of a man, saying she had assured herself of the truth of his statement and wished to obtain as soon as possible acknowledgment of her masculine rights in order to marry another girl with whom she had been keeping company for some time. Just as in this case so in a large number of others the masculine nature of a male hermaphrodite raised as a girl would suddenly break forth. Frequently such a girl would ask for masculine rights in order to marry a girl whom she had caused to become pregnant.

It is certainly remarkable that not less than twenty-nine female *prostitutes* were either during life or post-mortem found to have an error of sex. Many of these unhappy beings had intercourse with both men and women. The *mental condition of a hermaphrodite* may be perfectly normal; often, however, it is diseased, and certainly in many cases there is a *relationship between the sexual malformations and the diseased mental condition.*

The grave influence a genital malformation may have upon the psychic condition is seen in a case from England. A student with undescended testicles heard in a lecture by Cowper that this condition meant impotence. He left the lecture hall, went home and shot himself. The sensation of being neither man nor woman, the shame and perpetual fear that the carefully guarded secret might become known and make the individual the object of ridicule and laughter, robs him of mental rest and sleep. He broods and broods over his condition, dares not discuss it with anybody, considers himself an outcast in society, seeks solitude, becomes weakened bodily by his continual mental care and sleepless nights, becomes suspicious and skeptical, irritable, revengeful, at times becomes a criminal, or, on the other hand, he becomes careless, melancholy and ends his life by suicide. I myself have related of four attempts at suicide by male hermaphrodites raised as girls—three times with fatal result. It is my firm conviction that even *laying aside any hereditary mental taint a normal individual as soon as he becomes*

conscious of his sexual malformation in puberty can at times become despondent, even insane, merely from his mistaken social position. It is, however, not to be denied that there are cases where a psychic anomaly is inherited without any causal relations to the malformation. Frequently a record of such diseases as insanity, alcoholism, syphilis, epilepsy, tabes, etc., can be obtained in the previous history of father and mother. Not a few hermaphrodites end their life in an insane asylum. I have collected twenty two cases of insanity coincident with pseudo-hermaphroditism. Hysteria, epilepsy, progressive paralysis have all been repeatedly observed in hermaphrodites. One French alienist, as a result of his experiences, demands an examination of the sexual organs in every case of insanity. In medical jurisprudence hermaphrodites are usually regarded as degenerates. Matzner recently related the following legal case: A man was accused of criminally assaulting in a wood forty-one-year-old Mary G. This lady had on a previous occasion been obliged to put the care of her fortune into other hands on account of her feeble mental powers. Examination revealed that Mary was a masculine hermaphrodite. Since there was no eye-witness and the accusation rested wholly on the statement of a weak-minded person, the case was *nolle prossed*.

What fatal consequences a mistake in sex can cause is well shown in my table of nine hundred and thirty cases in which such a mistake was made many hundreds of times. Not fewer than sixty-eight marriages were concluded between people of the same sex. In fifty-nine of these cases the sex of the wife was found to be male—a male hypospadias raised as a girl; four times a post-mortem revealed the fact that a man who had lived in perfect happiness with his wife, possessed ovaries. The most remarkable case of this kind was that of Karl Menniken, who from the twenty-seventh to the fifty-seventh year of his life was married as a man, and yet was a woman, for a post-mortem showed as the cause of death cancer of the uterine cervix.

In five cases the sex of a woman was declared to be in doubt, with a likelihood of masculine pseudo-hermaphroditism, but no proof through operation or autopsy. In 1885 there was a double legal contest of some interest described by Badaloni: the marriage of Maura Faustine, held ten years before, when she was twenty-one years of age, was dissolved because in the first place she was a male hermaphrodite and could not copulate as a woman; further, also, because she had intercourse with girls without her husband's knowledge and hence caused him to be despised by his fellow-men. The papal curie dissolved the union as illegitimate. After the separation Maura, the divorcee, now a man, sued her brother for half of the paternal estate, the brother in turn accusing her, or rather him, of seducing his wife.

The midwife Maerker, accused of assaulting a pregnant girl, proved to be a male hermaphrodite. Under the pretext of correcting a malposi-

tion of the child, she had held intercourse with the girl. Soon other similar charges were preferred against her and she was condemned for unnatural practices. Later, however, she was pardoned by the king of Saxony, as she was already unfortunate enough in her congenital deformity, but her license to practice midwifery was revoked.

On eighteen occasions a betrothal was dissolved at the last moment on establishing the male sex of the bride; one of these girls had been engaged three times.

Many hermaphrodites have come into conflict with the courts on account of rape, assault, adultery, incest, malpractices on children, and even sodomy. In 1856 Tracel described a trial concerning an unmarried cook who had been made pregnant by a likewise single thirty-seven-year-old house-maid. The latter proved to be a male hypospadias. The child of this union showed a similar deformity. In 1903 I performed a herniotomy on a twenty-six-year-old unmarried cook, who had been accused of bad practices with other women a number of times, to determine the sex. I found testicle, epididymis and seminal duct in the inguinal canal, closed the wound and then testified that in this case the sex was male with peno-scrotal hypospadias, erections and ejaculation. The courts immediately ordered a change in the manner of life of the woman.

Thrice have hermaphrodites committed murder. In 1894 Wilhelmina Mueller, a teacher, was hung for having sexually abused a boy and then poisoned him with chloral. Post-mortem revealed the teacher to be a male hypospadias.

In another case in which I served as expert, the case was that of attempted suicide of an eighteen-year-old girl. The girl had put strychnia in the soup. A nine-year-old brother died as a result. The girl and her mother recovered. I established a male hypospadias peno-scrotalis with ejaculations, normal sperma and the presence of a vagina 9 cm. long. Since only the attempted suicide was proven and no reason ascribed for trying to kill mother and brother, the punishment inflicted by the courts concerned only the former event, and on account of the age of the person, consisted only of penance and the guardianship of the hermaphrodite by his parents.

The superintendent of a girls' boarding school called her physician one night because she had caught two of her wards in the performance of unnatural practices. The result of an examination showed male pseudo-hermaphroditism in one of the girls. To avoid scandal this one had to leave the institution at once. Little breaches of morality and of decency have occasioned many a conflict with the school authorities on the part of a male hypospadias raised as a girl. With the police, also, they occasionally get themselves in trouble, but at times a hermaphrodite has been arrested without any cause whatever. Thus, in December, 1901, the policeman on guard at the railway station at Pilsen arrested a girl, Marie Karfiol, who had just alighted from a train, on suspicion of

being a man in disguise. Although the papers of Karfiol showed her to be a woman, she was taken to the city hall and there examined by a physician, who established an error of sex—male hypospadias. The suspicion of the custodian of public safety was, therefore, a just one. Marie Karfiol was robbed of her flowing hair, was dressed in male attire, and returned, much to the surprise of her masters, as a man.

Cases have also occurred where a male hermaphrodite, through some error of sex, became the victim of a crime. The following case comes from Japan. A man murdered his wife and, to escape punishment, fled. On opening the body of the woman she was found to be a male hypospadias.

Bellin also describes a case where two men attacked a girl on the highway, and, after knocking her senseless, committed rape. As the girl regained consciousness she noticed a severe burning pain about the rectum and blood upon her clothing. In the legal proceedings resulting therefrom the girl proved to be a male hypospadias and without vagina. The two men had, therefore, committed pederasty.

As has been already mentioned, *frequently the most careful microscopic investigation of the sexual glands, whether removed by an operation on the living or in an autopsy, is, on account of rudimentary development, unable to establish the sex.* At times nothing can be distinguished but a connective tissue stroma, interspersed with blood vessels and here and there a little cyst, etc., but no traces of a characteristic morphological element, not to mention Graafian follicles or canaliculi seminiferi.

The correct decision where the sex is in doubt, except where ejaculation of sperma or menstruation have solved the problem, can only be made by the examination of the sexual glands, or at least of one of them.

In the majority of cases the sex becomes evident at the time of puberty. The newborn child is called a girl, say by the midwife attending because she passes urine like a girl, because labia are present. When the child, let us say, is twelve years old, it has pain in one inguinal region, and a rupture is diagnosed. After a year the same thing occurs on the other side. Erections of a clitoris grown considerably in size occur. At sixteen the voice begins to break, a mustache makes its appearance, pollutions may occur or onanism may be practiced. The suspicion of the parents, raised at the onset by the peculiar formation of the genitalia, now becomes certainty and the mistake in sex is cleared up. In other cases the physician is called to decide the question and usually succeeds, but by no means in every case. In one case I personally could determine an "erreur de sexe" only after eleven years' observation, after which time the patient having passing her twentieth year, a testicle appeared in the groin and erections and pollutions took place. In the newborn this is a more serious problem. *In difficult cases it is best to leave the sex undecided and have the person for the time being*

raised as a girl. It is by such means easier to protect the individual (on account of the method of raising girls), from the unpleasant social results of this deformity. This advice of Lawson Tait, I think very wise: "*Assuredly the male hermaphrodite raised as a girl will find it easier to change his manner of life than the female hermaphrodite raised as a man.*" The method has, however, its disadvantages. Let us suppose that following the advice of Lawson Tait and opposing that of Ahlfeld, the parents raised their child as a girl. The girl attains her sixteenth year, the male sexual desire is aroused, novels are read and the disguised youth is placed in a boarding-school with twenty-four girl pupils whose charms are laid bare mornings and evenings while washing and dressing. Is it surprising that under such circumstances he will with difficulty be able to restrain his passions? Considerable talk was created by such a case in Paris. A male hypospadias raised as a girl became foreman in a factory where only girls were employed and soon became a wolf among sheep; similarly dangerous was the position of an abbess who lived up to her death in a cloister, and whose sex post-mortem was found to be male.

Such a child must therefore be watched with the greatest care and the mental development observed to avoid harm. One has only to read the celebrated autobiography of the suicide, Alexina B., by Prof. Tardieu. Raised in a girls boarding school, Alexina did not at first realize that she was a man but had used her male sexual organs to seduce the daughter of the directress, who slept with her. After many struggles with her conscience, confession. A medical examination cleared up the "*erreur de sexe*" in her twenty-second year, the mode of life was changed by order of the bishop of Toulouse, male attire procured and the former teacher left the institution in which she lived from childhood up, to become a railway conductor. Five years later the unfortunate being committed suicide in a wretched attic in Paris. One should imagine that the mental condition of such a person, after the rights of manhood had been granted her, would be more peaceful and contented. In this case it was just the contrary. Despair drove her to the grave. Whoever is interested in the psychological side of pseudo-hermaphroditism should not fail to read this little book.*

A very similar autobiography of an eighteen-year-old male hermaphrodite raised as a girl is in my possession, but I cannot yet publish it, as the individual, who also attempted suicide, is still alive.

The collection of cases in which the surgeon is concerned with pseudo-hermaphroditism, is greater than is usually thought. Frequently will the question be put to him by parents of a newborn child whether the sex be male or female. Since the feminine appearance of the external

*Tardieu: Question medico legale de l'identite dans ses rapports avec les vices de conformation des organes sexuels, contenant les souvenirs et impressions d'un individu dont le sexe avait ete meconnu. Paris, 1874.

genitals in male hermaphrodites, the presence of a peno-scrotal hypospadias, depends on delayed development, it is of the first importance to search for the presence of a testicle, epididymis or seminal ducts. To palpate a prostate per rectum in a newborn child is not only difficult but inconclusive, since neither its absence or presence would help to determine the sex. *If, however, organs corresponding in size, shape and consistency to testicle, epididymis and seminal ducts be found in the lateral folds or higher up at the opening of the inguinal canal, one can be assured that the sex is male*, even if beneath a female urethra the vaginal opening is to be seen surrounded by a hymen and labia minora. One cannot speak as yet of a cremasteric reflex in the newborn, neither can the palpation of the seminal ducts at the pelvic arch be of as much importance then as at puberty. Klebs declared the presence of labia minora as speaking for a feminine sex. This is a mistake. I have seen many male hermaphrodites whose external genitals resembled a perfectly formed vulva with large and small nymphæ, hymen, vaginal orifice and absolutely no enlarged clitoris. That should not be forgotten.

If it be impossible to feel testicle and epididymis in the newborn, the only proper thing is to postpone the decision, demand another examination later on, even as late as puberty, or *demand a diagnostic operation*. If cryptorchismus be present, the decision should unquestionably be put off unless one wishes to make a mistake such as happened to me with my colleagues, Krajewski and Anders. We, a surgeon, a pediatrician and a gynecologist, had all three declared a twelve-day-old child of doubtful sex, to be a male hypospadias with lateral cryptorchismus. A few days later the child died and on post-mortem proved to be a female hermaphrodite, noteworthy only because of the striking hypertrophy of the clitoris. Peculiar was also the prominence of the vulva beyond the body walls of the pelvis, which I have never observed in male hermaphrodites. Whether this appearance is observed in other newborn female hermaphrodites, or is pathognomonic, I cannot say.

Very often the hermaphroditic deformity is associated with others. The most frequent complication is congenital inguinal hernia. Besides this there has been observed spina bifida, hydrorrhachis, hydrocephalus, extrophia vesicæ, pelvis fissa, polydactylie, atresia ani, atresia urethræ, epispadias urethræ, etc. Many children burdened with such mixed deformities, are born at full term dead or living, but if the latter, not viable, so that they soon perish. In a few cases life can be preserved by operative means, as in atresia of the anus. It is interesting to note that mistakes of sex have arisen in extrophy of the bladder. Not less important is the fact that four times a hermaphrodite having testicles and an extrophy of the bladder was raised as a girl because by wearing skirts she could more easily keep herself clean. And it is also interesting that one such male hermaphrodite with peno-scrotal hypospadias, upon being clothed in male attire for the first time, ripped up the seam of his trous-

ers the very next day so that he could without much undressing pass his urine like a woman.

The second demand made on the surgeon is *to pay attention to every case of inguinal hernia appearing early or late in a girl*. How many cases do I know of where through an error of sex in a girl, or rather in a male hermaphrodite of six, ten, fifteen, twenty, thirty years, the delayed partial descent of the testicle was mistaken by the surgeon for an inguinal hernia. The child would be forced for years to wear a truss and be scolded as disobedient, if he tore loose the hated supporter that made an intolerable pressure on his sensitive testicle. Beside these false hernias we have also true ones. Leaving out of consideration hernias of intestine, omentum or bladder, there are important labial misplacements of uterus, tubes and ovaries; moreover, the cases where in a man, *i. e.*, male hermaphrodite, with inguinal hernia, there was found in the sack a uterus uni- or bi-cornis, as in the following case of Saenger: In a herniotomy on an unmarried teacher of thirty-two years, who had never menstruated, Saenger found in the inguino-labial sack a uterus of normal size, together with a tube of normal appearance, a parovarian cyst of considerable dimensions, and a body that he first took to be an ovary. The microscope, however, later showed the body to be a testicle. Strangely enough Saenger had just previously in a twenty-three-year-old servant girl operated on an ovarian hernia and removed a testicle, thus establishing an "erreur de sexe." Up to the year 1903 I collected fifty-eight operations for rupture, *i. e.*, herniotomies, done on hermaphrodites with astonishing results as to mistakes in sex. In forty-two cases an "erreur de sexe" was established; three times a herniotomy done on a married woman for misplaced ovary, revealed a testicle in the sack; thirty-six times testicles were found in the hernias of young or older girls; once the operation established a feminine sex in a person raised as a boy. Four times a herniotomy was performed directly for the purpose of eliminating doubt as to sex. The temporary exposure of the sexual gland showed a mistake in sex. These are the cases of Porro, Tillaux, Pean and v. Neugebauer. Several individuals were operated on a number of times, thus first a herniotomy on one side and several years later on the other side. Once there was removed from the inguinal region what was thought to be a swollen lymph-gland (case of Poore-Matthews). Seven years later the microscopic examination of the lymph-gland removed at that time disclosed the fact that it was a testicle.

Beside these false and true hernias, "hydrocele muliebris" was occasionally operated on, and, after removal of the hydrocele fluid, a testicle discovered.

In the differential diagnosis of the contents of a labial fold or the half of a divided scrotum in cases of doubtful sex, attention must be called to the fact that the testicle of a male hermaphrodite can readily be held for the ovary of a woman; secondly, that testicles have been thought to

be felt where a post-mortem showed, as in Virchow's case, only the snared-off preinguinal portion of the processus vaginalis peritonei on each side. Virchow himself did not regard the little almond-sized bodies felt in the labial folds of Clara Hacker, each with a cord passing upward through the inguinal canal, as testicles, since he could not palpate any epididymis. He hence considered them ectopic ovaries, and declared Clara Hacker a girl. A post-mortem cleared up the matter: myxosarcoma of the right ovary, the left ovary normal: the two bodies which Virchow was inclined to take for ectopic ovaries, since they swelled up each menstrual period, proved to be a hydro- or, rather, hematocele of the vaginal process of the peritoneum.

Beside the herniotomies performed on hermaphrodites and persons of doubtful sex, I have gathered together *thirty-one cases of laparotomies on such persons*. Five times the abdominal incision was made for diagnostic purposes to examine the sexual glands. In several of these cases only the microscopic examination of the removed gland established a previous mistake in sex. Twice a laparotomy revealed an ovarian tumor in men (cases of Krabbel and Pozzi: "Ovariectomies on Men"). Once in a woman a vaginal operation for hematocele was performed. The woman died after a puncture per vaginam, and the post-mortem showed that the trochar had been stuck through the bladder into a sarcoma of an undescended testicle. *In twenty-eight laparotomies there were discovered fifteen errors of sex*. Fehling diagnosed hematometra in a girl who had had her periods but two years. The girl had a narrow vagina with hymen, a clitoris five centimeters long, in the right labial fold a hard body connected by a cord with the inguinal canal. As a puncture did not elicit any retained blood, he held the idea that the case was one of a tumor of the left ovary with labial ectopy of the right. He thereupon made a laparotomy which substantiated the second diagnosis; a myxomatous left-sided ovarian tumor was removed, and the right ectopic ovary, together with the tube, drawn from the inguinal canal into the abdominal cavity.

Interesting and instructive is particularly the case recently reported by Paton, of pseudo-hermaphroditismus masculinus internus with removal of a pyosalpinx by laparotomy in a young man of twenty-one years who suffered from dysuria and pyuria. How great was his astonishment when he discovered, on operating, the presence of a well-developed uterus and tubes, both of the latter being transformed into pus-sacks. On the right side an incision had been made the year previous parallel to Poupart's ligament, to empty a deep-seated abscess. A post-operative fistula had healed up only half a year ago. The left-sided pyosalpinx discovered in this laparotomy was removed. The uterus was left, as was also the right tube, which seemed adherent to the abdominal wall. The uterus emptied into a vagina with peno-scrotal hypospadias. Oddly enough, the urethra likewise emptied into this

vagina, and by such a small opening that the bladder was with difficulty emptied. One had never succeeded in getting a catheter into the bladder. This was afterwards easily comprehensible. Previous to the operation one had mistaken the vaginal opening for the urinary meatus.

Two weeks ago a diagnostic laparotomy was performed by me in the case of a twenty-five-year-old servant girl who had aroused suspicion of being a male hermaphrodite, for the purpose of finding out the nature of the sexual glands palpated per rectum. They proved to be ovaries. Thereupon, according to the girl's wish, the clitoris (which was about the length of the little finger and thickness of the index finger) was amputated. Later on I intend to sever the adhesions of labial folds, so as to lay bare the entrance to the vagina, the presence of which a sound had verified. It is a case exactly paralleling that of v. Mars, who in like manner laid bare the vaginal opening of a female hermaphrodite married as wife, who had come to him on account of the impossibility of coitus.

These few examples must serve to call the surgeon's attention to the many difficult, complicated and surprising cases that his knife may encounter among hermaphrodites. In this narrow space I cannot detail any more of the numerous instructive single cases.

We must further record the instances where a mother comes to the physician with her daughter to ascertain whether her daughter can marry, whether she can hope to have children, or why the girl has not yet menstruated. The last-named question in particular has not rarely led to the discovery of an "erreur de sexe" and the gynecologist and practitioner must direct his special attention to these cases. It is wrong here in order to save the modesty of the girl, to say merely: probably anemia. If then you give the girl iron, baths, emmenagogues of various kinds, if you get her to take gymnastics, to swim, to ride a wheel, play tennis or basket-ball, etc., you would make a mistake. If you do not wish to risk some serious error or put at stake your good name as diagnostician, as doctor and helper of the sick, you must make an examination in such a case. The caution: "Cavete hymeni" is here out of place. One can readily make such an examination without disturbing feminine modesty or of injuring the hymen. In the case of Steglehner the mother demanded a post-mortem on her girl, who had died of consumption, to find out why her daughter had never menstruated. The presence of testicles and male hypospadias was discovered. The mother must have intuitively doubted the feminine sex of the girl.

Beside the unmarried girls the physician is further frequently consulted by wives on account of sterility, dyspareunia or impossibility of intercourse. Here one usually finds an adhesion of the labia, with well-developed vagina and uterus, and let us say a hypertrophied clitoris, and here Hugnier, Sonnenburg and v. Mars advise dissection of the vulvar atresia. At other times we find hypospadias with one or double-

sided cryptorchism of a male hermaphrodite and we must watch for ejaculations of sperma and palpate testicles and epididymis. The examination per rectum or where possible per vaginam will give evidence whether a uterus or a prostate is present or both or neither of them. Under circumstances we can here mistake the sex, where, for instance, a vagina at the outset rudimentary has by continued intercourse become long and wide enough to admit a regular speculum, as in Polaillon's case. He could introduce a cylindrical speculum all the way into a canal underneath the urinary meatus, not the vagina, but an artificial invagination of the skin between urethra and rectum. Post-mortem showed that the body of this prostitute was that of a man and not that of a woman, as Polaillon had supposed. Where one can feel testicle and epididymis in the labial folds with narrow vagina, where a cremasteric reflex is distinct and one can feel the seminal cords roll under one's fingers, where further a viscid ejaculation is obtained containing spermatozoa, there all doubt is removed. Often such an ejaculation can be observed only after frequent examinations. Occasionally it is possible to see in the lateral edge of the urethra or vagina the openings of the ejaculatory ducts, particularly if examined at the moment of ejaculation. These matters are, however, exceedingly difficult of investigation and I personally succeeded in establishing this point only once among thirty-eight cases of hermaphrodites.

Is it always proper if one has established a mistake of sex in a married person to tell such an individual or his or her spouse the results of the examination? How should one act in private practice where the mistake is discovered accidentally? Should one at once disclose the matter to the young girl, her parents, etc.? These questions have never been discussed by the profession. In several cases, the physician discovering the male sex of the wife, told neither her nor her husband about the matter so as not to disturb the previous marital bliss of the couple. Where a divorce is asked for because of dyspareunia, sterility, etc., the doctor need not hesitate to impart his findings.

Can a girl having testicles, hence a male hermaphrodite, after establishing the error of sex be legally compelled to put on male attire? As a matter of fact in the case of Marie Karfiol, the police compelled her against her will to put on male attire. As a rule, however, in the case of a hermaphrodite raised as a girl the authorities allow him to continue in his mode of life, unless he himself desires to change it. In the case of the midwife Maerker, the authorities established the fact that she was a male hypospadias, took away her right to practice midwifery, but allowed her still to dress like a woman. These are all still open questions, however, which have not been settled in the courts.

As regards the diagnostic value of the erection of the male organ it must be said that cases are well-known where even very decided erections of a hypertrophic clitoris have been observed in female hermaph-

rodites, who, married as men, have had intercourse to the satisfaction of their wives with an immission of the organ. In how far this immission was complete is another question: occasionally it might require an unusual attitude in intercourse. If larger corpora cavernosa are present, the erection of a hypertrophic clitoris may occur. Hence this possesses no diagnostic value, even if at times, as in my last case of female pseudo-hermaphroditism, a clitoris the size of a finger is found which had never been in erection, although the girl was twenty-five years old. In view of the fact that physicians are so liable *a priori* to consider male pseudo-hermaphroditism as probable where there is a large clitoris, I again call to mind the case of Karl Menniken, and also that of Gunkel. The latter was a girl with male sexual desires, who was arrested on a charge of incest. In the courts she was declared a man, but received permission to continue to dress in female attire. She died at fifty years. The post-mortem showed a myomatous uterus, ovaries, a vagina ending in the caput gallinaginis, a clitoris hypertrophied like a penis and penetrated by the urethra up to a point about two and a half cm. behind the tip of the glans.

Of equal importance is a post-mortem done by Prof. Grawitz that has not yet been published: still-born boy with normal penis; in the abdomen two ovaries lying in normal position, two round ligaments, two rudimentary uteri each with a tube and two vaginæ, the one ending blind, the other patent, ending close together in the bladder, and between them the rectum opened into the bladder. Here, therefore, there was in the exterior of the body absolutely nothing favoring the probability of female sex. Apparently, it was simply a boy with undescended testicles. It would be desirable for the reader to remember these striking cases in particular.

As to the so-called secondary sexual characters, these can only give corroborative evidence of meager value in making a diagnosis as to sex, never can they positively decide the question. Neither the voice nor the size and shape of the throat, nor the method of ossification of the various parts of the thyroid cartilage, usually so typical in man and in woman, can be considered as decisive; nor likewise the form and size of the pelvis, the distribution of hair-growth, the hair on the face, the upper lip, the cheeks, the chin, neck, chest extremities, the pubic and perineal region, the flanks and the lower abdomen. In women the pubic growth of hair ends in a horizontal line above the symphysis. In men a corner extends vertically up to the umbilicus. This sign also has absolutely no value, just as the development of the muscular system, the fatty panniculus, or the breasts. While for instance "gynecomastie" occurs in normal men, it is found even more frequently and with palpable glandular tissue in male hermaphrodites. The thoracic and abdominal type of respiration is also not a positive sign.

In 1900 I collected nineteen cases where either *benignant* or *malignant*

tumors, particularly of the sexual organs, were associated with *pseudo-hermaphroditism*. At the present time I can increase this number to thirty-three cases. The surgeon should know of this coincidence. Even if I am far from asserting any causal relation between the congenital deformity and the neoplasm, particularly the benignant kind, I would, being no upholder of the bacterial or parasitic theories concerning carcinoma, call special attention to this coincidence. Especially is to be noted the frequency of sarcomatous degeneration of undescended testicles in which the disturbed nutritive conditions are possibly a factor as well as occasional mechanical insults, such as, for instance, the pressure exerted continuously upon the testicle in the inguinal canal. The *predisposition of undescended testicles for sarcoma* is so generally recognized that only recently Kroenig removed the testicles of a male hermaphrodite raised as a girl solely because cryptorchismus might lead to sarcoma formation.

While it is readily comprehensible that in deformed newborn children the sex is easily mistaken and that nature does not always sooner or later clear up the error by means of the onset of menses, the descent of one or both testicles, occurrence of pollutions, ejaculations, etc., yet other mistakes are harder to explain, as thus a case in the middle ages, where a woman with a penis-like prolapse of the uterus and total inversion of the vagina, was declared a hermaphrodite and so considered until Saviard disclosed the true state of affairs. I have even heard of a case where parents without any malformation of their son, clothed him as a girl so that he would not have to serve in the army. Cases have also occurred, however, where female hermaphrodites raised and baptized as men were discharged from military service, once on the appearance of menstruation, the other case because the soldier became pregnant and was delivered similar to that famous monk of the middle ages, *Mas, Mulier, Monachus, Mundi mirabile monstrum*, who gave birth to a child in a monastery and was punished by penance and expulsion from the monastery. In another case a boy in the service of the monastery was accused before the assembly of monks of the theft of a sacred vessel and a whipping was ordered. The boy begged that they would not undress him for this punishment as he was ashamed since he had noticed that he was a girl and was menstruating. After assuring themselves of these statements they not only excused him from punishment but gave him female attire and a dowry. The former choir-boy married a merchant and children issued from the marriage.

Finally, I must mention a group of cases in which the work of the surgeon is associated with pseudo-hermaphroditism. *In many cases the mother asks him to remove the hypertrophic clitoris*, and he without further ado removes it without for a minute suspecting that he might be robbing a male hermaphrodite of his male organ. Landau describes such a case in which Berendes had cut off the clitoris of a young girl, and where he

himself later established the sex as male. In most cases the physician more carefully declines to operate.

Occasionally a male hypospadias has asked for the amputation of his penis as the erection of the hook-like, downward-curving organ was painful. At times such a hypospadias wishes the tissues cut that bind down his penis, hoping thereby more easily to effect an emission. Not much, however, is usually accomplished by such an incision, since scar-tissue is again formed and this scar contracts. Still this operation being a small one is justifiable. In conclusion, the constantly increasing number of cases must be recorded in which the surgeon has after repeated pains-taking plastic operations succeeded in fully curing a peno-scrotal hypospadias.

Regarding mistaken diagnoses of sex, cases are known *where at different ages the sex of the hermaphrodite was differently determined*, and the manner of life and social position changed several times. Anne Grandgean, for instance, was raised as a girl up to her fourteenth year; later, on the advice of a priest, as a boy and called Jean. Jean married; the union was childless. Then another priest told his wife that she should no longer consider Jean a man—the marriage was annulled. Jean and his wife were condemned for profanation of the sacrament. Finally Jean was pardoned, but compelled thereafter to wear feminine attire. In the well-known case described by Otto, the third husband of a woman, the peasant Kabuza, asked for a divorce. In the first trial the sex of a woman—a male hermaphrodite—was adjudged feminine and the man blamed for the impossibility of coitus on account of his phimosis, but a later trial established the male sex of his wife. Even the same doctor has changed his opinion in regard to the sex of a certain individual. Thus Martin regarded two sexual glands removed by him in a double-sided herniotomy on a married woman as apparently ectopic ovaries, since he thought he could detect with the naked eye follicles. The microscope showed however that they were testicles. The exceedingly numerous collection of cases in which a mistake of diagnosis has been made requires the greatest reserve and caution in determining the sex of any given case. *Several French and Italian authorities have asked in such cases of doubtful sex for the introduction of the term: SEXE INDETERMINE (sex undetermined).* Later in life, when one or the other sex has become manifest, the necessary changes in the manner of life should be made. No such clause has as yet, however, been introduced in books of law. Its introduction would put the parents in an embarrassing position. How should they clothe and educate their child? In practice the clause is perhaps superfluous. It might, however, gain some importance in a forensic way if the individual in question should at some later time come into collision with the law.

Of great interest likewise is the study of the psychic condition of hermaphrodites. Unfortunately, so little attention has thus far been

paid to this side in reports of cases that only a few scattered ones offer available material. It is a work of the future to study the so-called psychical hermaphrodisia with apparently normally formed genitalia, the homosexual desire, etc. Dr. Hirschfeld is at present engaged in studying these problems in his *Jahrbuch fuer sexuelle Zwischenstufen*.

In conclusion, I would like to ask such of my fellow-colleagues who may have occasion to observe cases of pseudo-hermaphroditism, kindly to send as full an account of them as possible to me at the following address: Leszno 33, Warsaw, Russia.

THE OPERATIVE TREATMENT OF RIGID FLAT FOOT—REPORT OF A CASE, REMOVAL OF THE SCAPHOID.

BY NATHANIEL ALLISON, M. D., of St. Louis.

The history of the case I wish to report is as follows: A girl of sixteen years has been troubled with her feet for over two years; her occupation has made it necessary for her to stand for long stretches of time on her feet; when she first had symptoms, she considered her trouble rheumatism and took medicine accordingly; her trouble grew worse all the time. She then went to an instrument maker, who sold her a pair of ready-made plates; these supports she wore, but her pain did not leave; in fact, it grew worse. Her right foot now became much worse than her left, so bad indeed that she could no longer bear any weight on it; she then consulted a surgeon, who did a supramalleolar osteotomy of the tibia and fibula (Trendelenburg's operation) on the right leg. Eleven weeks after this operation I saw the case for the first time; the right foot had relapsed into a position of marked valgus; the patient was unable to walk without crutches, she was discouraged and held the opinion that nothing short of an artificial foot would relieve her pain and make it possible for her to walk.

Figure number 1 is a photograph of a cast taken of the right foot at that time. The foot was extremely rigid, the outer border held off the ground, any attempt at motion caused pain severe in character, the usefulness of the foot was entirely gone. Firm union had followed the osteotomy done on the tibia and fibula, and the patient possessed a well-marked bow leg.

I suggested manipulation under an anesthetic, and if found necessary, further operation in order to restore the foot to a weight bearing and walking position.

On May the 18th, 1903, the patient was anesthetized, and it was found necessary to operate in order to accomplish a satisfactory correction. Through a curved incision two inches long made over the scaphoid bone I removed that bone entire. It was then possible to correct the foot;

furthermore, it took but slight force to hold it in a corrected position. Plaster of Paris was applied, and it was thus held for a period of three weeks. The plaster bandage was then removed.

Figure 2 is a photograph of a cast taken of the foot at that time. It shows a foot practically normal as to conformity.

A steel plate designed to hold the foot corrected was then put under the foot, and the inner edge of her shoe was raised in order to obtain a slight amount of overcorrection. Crutches were used for three weeks more and then put aside.

As might well be expected, considerable difficulty was experienced



FIG. 1.

when the foot was put back into use; it had been weakened by a long period of disuse and further by operation; in consequence it began to react painfully. By the constant use of massage, intelligent manipulation and active exercises designed to strengthen the foot, the patient is now able to walk encumbered only by a steel plate inside her shoe.

In considering this case one might well ask several questions:

In the first place, when the flat foot was incipient or even after it had become definitely flat, was the girl properly treated?

She was supplied with a store plate which had the effect of raising a callosity on the inner side of her foot but was otherwise inefficient; this is evidenced by the fact that she gained no relief, and standing it to the

limit of endurance she sought to have something radical done. I am of the opinion that had she been instructed in proper exercises to make her foot strong, had she been supplied with a rational support, intended to accomplish something in the way of correction, be it either plate or modified shoe, her foot would not have collapsed. Even after the foot had collapsed, if it had been manipulated and retained in a cast for a short while, this treatment followed by massage, suitable exercise and support, I think the painful symptoms could have been relieved and a perfectly useful foot maintained. But instead, she went on as long as human endurance lasts, but must finally give up and have an operation.

The second question: Given a case of so-called fourth degree flat foot, that is a case where manipulation under anesthetic has failed and bone operation alone seems indicated, what operation promises the best result?

In my case here we have an exposition of the results of two of them. *Supramalleolar osteotomy of the tibia and fibula* or Trendelenburg's operation was done first, so taking it in that order what does it promise?

Trendelenburg's idea was that by dividing the bones of the leg above the ankle and turning the distal fragment in, creating a bow leg in fact, the body weight would be directed upon the outer border of the foot. He arrived at this conclusion after he had seen several cases of badly set Pott's fracture (where the foot was thrown into a valgus position due to the deformity at the ankle joint) treated successfully by this osteotomy. Whitman speaks of this procedure as being an innocent and rational operation, but he qualifies this statement by saying further that it is by no means always successful: also that he regards the bow leg as unfortunate accompaniment of the treatment in case it were successful. I am convinced that it is hardly a rational, surely not an innocent operation. In the deformity following Pott's fracture the change is in the ankle joint itself and the faulty position of the foot is a result of this change; here this form of osteotomy is indicated, as it corrects the deformity which is causing the trouble. In rigid flat foot the change is in the sub-astragaloid joint; this form of osteotomy done here compounds the deformity and furthermore necessarily implies that the foot itself can be reduced in order to accomplish anything in the way of a cure. If it is possible to reduce the foot and hold it reduced in plaster of Paris, I cannot agree that it is rational or innocent to deform the leg. Messrs. Walsham and Hughes state relative to this operation: "It is difficult to understand how a transverse severance of the tibia and fibula above the ankle joint could well affect the rigidity of the foot at the sub-astragaloid joint." In the case which I report, this operation was done and well done, but as far as any good result is concerned it was quite unproductive; the fact is that the patient was more or less completely disabled for a period of eleven weeks and found at the end of that time that it would be necessary to undergo further operative treatment in order to walk, and that she was the possessor of a bowed leg. As far as the mechanics go, suffice it to

say that in this case the bad position of the leg seemed to exaggerate the bad position of the foot. It is my opinion, therefore, that the operation used as a radical method for the cure of rigid valgus holds out little promise of success, and, furthermore, it is liable to produce severe adverse criticism.

There are several operations described in the literature that have the object in view of correcting the foot itself; the prime idea in most of them is the removal of a more or less extensive wedge from the inner side of the tarsus, thus removing the obstacle to correction. First—

Ogsten's Operation, or the Ablation of Chopart's Joint.—The procedure



FIG. 2.

here is to denude the cartilaginous surfaces of the astragalo-scaphoid joint, correct the foot, peg the bones together, and immobilize the foot in plaster of Paris. This operation has been rarely done. Walsham and Hughes state that only once did they try it and then the result was not satisfactory. The objection to this operation is that it purposes to immobilize a useful articulation, that the period of non-use to obtain this immobilization is too long.

Mr. Hare's operation is only a modification of Ogsten's. He cut the astragalus and scaphoid in such a manner that they dovetailed together. It is open to the same objections that obtain against the Ogsten operation.

Sir William Stokes describes removing a wedge from the head and neck of the astragalus; but he found that this was not sufficient in most cases to allow the arch to be restored.

Larabrie reports a case so extreme in character that the dorsum of the foot was concave and the sole convex; here he gained a useful foot by removing the scaphoid entire, a portion of the cuboid and internal cuneiform, and the head of the astragalus; he took out a good sized wedge in fact, involving most of the tarsal bones; he wired what was left of the bones together. This, there is no need to state, is an extreme measure.

Gleich devised a very ingenious operation, the idea being to raise the posterior pillar of the arch. He cut across the os calcis in a diagonal direction and simply slid the heel forward. I do not know to what result this operation would lead. Stokes says that it would lead to the same trouble that follows wearing high-heeled boots.

Removal of the scaphoid was probably first done by Mr. Richard Davy and Mr. Golding Bird; they report several cases each where it restored the foot and relieved the pain.

It seems to me to be the best operation where operation is necessary. The wedge is removed from the inner side and it is sufficient to allow good correction in most cases, and this wedge is not removed with the end in view of fixing any joint. There is no doubt that it weakens the foot; any of these operations will do that; the question is one of degree.

In my case it produced a good result as far as the conformity of the foot was concerned, but I had in addition a very weak foot to treat, a foot that would readily return to a position of deformity, a painfully weak foot. I put under this patient's foot a plate designed to hold the foot corrected, a plate with several flanges, so that her foot could not slip away. Active and passive exercise were faithfully carried out, the amount being increased as the foot gained strength; in addition to this, she had massage and cold and hot water bathing; several times she lost heart and needed encouragement, but I am glad to say her foot has gained enough strength to be perfectly useful.

The fact that any operation on the tarsal bones has a tendency to weaken the foot is evident, the foot already weak is made weaker. That it is necessary at times to do an operation here I am sure is a fact, but the operation should always follow the failure of a manual reduction under an anesthetic. In the choice of operations I believe the simplest to be the best; that exsection of the scaphoid is the simplest is easily demonstrated, there is no pegging or wiring in order to hold the corrected position, nor is there destruction of an articulation. I cannot approve of the operation known as Trendelenburg's operation as a means for radically curing rigid flat foot.

The after-treatment of the operative cases is of the greatest importance; it means that one has a very weak foot that has a strong tendency to become flat. I wish to bring out strongly the point that a case is not cured when the operative wound has healed and the retention plaster is removed; on the contrary, the treatment is just begun.

PNEUMOCOCCIC INFECTION OF THE RESPIRATORY TRACT—A
CONTRIBUTION TO THE ETIOLOGY OF "COLDS." *

BY JOHN ZAHORSKY, M. D., of St. Louis, Mo.

Four years ago I read a paper before this society entitled "Cold as an Etiological Factor in Diseases of the Upper Air Passages" (*St. Louis Courier of Medicine*, 1900), in which I argued that cold is an incidental predisposing cause of these diseases, and that the principal causation lay in an infectious and contagious agent. From a study of the literature, one is impressed with the growing sentiment that "colds" belong to the category of infectious diseases, and must be treated as such clinically. Since that time I have given these diseases much study, inasmuch as more than half of my clinical work is their diagnosis and treatment.

In infants and children especially do these diseases reveal themselves in their characteristic nature. I am more than ever convinced that the principal factor is a contagious one, which does the work in most cases without the predisposition induced by exposure. It is the rule that some member of the family takes "cold"—that is, receives the infection from outside of the family—and it is thus introduced into the home. Its spread there depends on a predisposition of each individual and the virulence of the micro-organisms. Other factors are ventilation, general nutrition, fatigue, exposure, etc.

For some time I have been studying the nasal, pharyngeal, and bronchial secretion from these "colds," with the object of finding certain definite bacteriologic pictures connected with clinical types. It has become a general custom to call all severe respiratory infections "grip," without really having any of the typical symptoms present. The term is convenient, and if the clinician retains the fact in mind that these diseases are caused by a variety of micro-organisms, there can be no harm in retaining the name of "grip." At any rate, it does not foster a wrong etiologic conception, as the term "cold" does.

We had a wide epidemic of these "colds" in St. Louis during the months of October, November and December. Isolated cases may be traced back to the summer months, but with the opening of school, and with the advent of cold weather, necessitating an indoor life, the number of cases became enormously increased.

Its contagious nature was very readily obvious. Whole families were coughing and sneezing. In the schools, I was told, a general coughing epidemic was observed. The disease varied in severity in different individuals. The severe nervous symptoms of influenza were usually absent. Most commonly the part involved was the nose and naso-pharynx, which, in spreading downward, caused a laryngitis, bronchitis and

* Read before the Medical Science Club, January 10, 1903.

broncho-pneumonia in some cases. Many times the primary disease occurred in the larynx, occasionally in the trachea or bronchial tubes.

A very suggestive fact was the enormous increase in croupous pneumonia throughout the city. In my own practice I have seen several cases of typical croupous pneumonia in families where this respiratory infection occurred. A very common localization was in the Eustachian tube and middle ear, giving rise to deafness, pain, fever and suppuration, according to the intensity of the inflammatory process. In some cases a marked conjunctivitis was observed. Two cases in adults developed abscesses in some of the accessory cavities of the nose. The tonsils were not infrequently involved, lacunar exudates being the rule where this organ was the seat of the infection.

The general symptoms were usually mild in adults, but in infants and children the occurrence of high fever was not uncommon in post-nasal, otitic, tonsillar or bronchial infection. No general rule can be laid down as to the course of the fever. In some cases an initial rise for a few hours was the extent of the fever. In other cases repeated daily elevations were observed. In still others a continuous fever, lasting from three to fourteen days without any serious local lesion, suggested a septicemia. Of course, in broncho-pneumonia and lobar pneumonia the usual fever curve was observed. Another marked symptom was an obstinate cough in some of the tracheal infections. Recrudescences and relapses were very common both in general and in local symptoms. The stomach seemed to be involved in some cases, since I saw several cases of severe vomiting associated with other signs of the typical respiratory infection.

Altogether, I made twenty-six examinations, and Mr. Snodgrass made twelve examinations of the secretions from the nose, throat and bronchial tubes. The sputum was usually stained with dilute carbolfuchsin, or some modification of Gram's stain, usually the so-called Weigert-Escherich stain. The morphology of the bacteria is well shown, although it must be admitted that bacteriologic appearances are very deceptive. And yet when once the presence of a certain micro-organism is corroborated by differential stain and culture, one becomes very confident that a certain micro-organism is the one designated originally.

In this series of examinations with six exceptions the diplococcus lanceolatus (Fraenkel) was invariably found present in considerable numbers. A small bacillus, presumably the influenza bacillus, was present only once. In several cases a diplococcus having the morphology and the characteristics of the micrococcus catarrhalis was encountered. Again, in a few cases a diplococcus which did not decolorize according to Gram, but which otherwise resembled the micrococcus catarrhalis seemed to be the prevailing micro-organism present.

From this study I do not hesitate to state that we have recently had a wide-spread epidemic of pneumococcic infection. •

As is to be expected, the prevalence and mortality of lobar pneumonia has been greatly increased. A study of the city mortuary statistics for the past few weeks shows that pneumonia has been wide-spread, about thirty or more deaths occurring each week. Then it is a common report among physicians as to the frequency of the disease. Personally I have treated four cases of typical lobar pneumonia in the last four weeks—three in children and one in a young adult. In addition, several cases of broncho-pneumonia belong to this series.

The important general conclusion from this, which does not seem to be generally appreciated, is *that lobar pneumonia is only an incident, or possibly an accident, of a wide-spread pneumococcus infection*. Hence, in the prophylaxis of this disease it is necessary to consider the cases of bronchitis and angina which are the sources of the common infections.

Let me briefly rehearse a few family histories in this epidemic.

1. A girl seven years of age had croupous pneumonia of both lower lobes and was severely ill for ten days. A little sister, younger, had a tracheitis with bad cough. A little brother had coryza and angina.

2. A boy, aged seven years, had lobar pneumonia of one lung. The father had an angina of moderate severity. The mother had angina, tracheitis and intercostal neuralgia. A little sister had coryza and angina.

3. The father had angina which was followed by coryza and bronchitis in the son five years of age; and the baby sister had severe broncho-pneumonia.

4. The father had coryza and follicular tonsilitis, the mother had angina and post-nasal inflammation, one child had intense conjunctivitis and coryza and the other suffered from a cough, coryza and conjunctivitis.

This series could be very much extended and shows the diverse lesions which may result in the same family from the same infective agent. The rule, however, is that the lesions are very similar in the different members of the family. The inflammation begins at one point and spreads up and down the respiratory tract.

That family epidemics may be due to the pneumococcus has been reported by others. Several years ago an epidemic in a foundling home of Germany was extensively described. Family epidemics have been reported by Baduel and others. Some of the earlier writers (Pansini, Hoffman and Durck) assert that the bronchi always contain bacteria, but later writers (Babes, Neisser, Thomson, Miller, etc.) found the bronchi and lungs of animals recently killed, sterile; hence it is the general accepted belief that the bronchi and lungs in health contain very few bacteria.

Those which enter are destroyed by the bronchial secretions or enter the lymphatic spaces and are destroyed in the bronchial lymphatic nodes.

In bronchitis and pneumonia bacteria are invariably present. In the study of bronchitis Barthel (*Centralb. f. Bact. u. Paras.*, 1898) found the pneumococcus most commonly present and regarded this micro-organism as the most important cause of the disease. Ritchie (*Jour. of Path. and Bact.*, 1900), after examining twenty-seven cases of acute bronchitis in children, found the pneumococcus and the streptococcus the most common bacteria present.

Rey (*Jahrb. f. Kinderheil.*, 1902) calls attention to an epidemic of otitis media due to the pneumococcus.

These are only a few of the large number of references concerning pneumococcus infection in the literature. Much attention is given the pneumococcic septicemia, many cases of which are met clinically, the exact diagnosis of which depends on a blood culture. Other parts of the body, as the joints, peritoneum, meninges, etc., may be infected.

Four years ago we had a severe epidemic of respiratory disease at the Bethesda Foundling Home. About sixty babies suffered from angina and bronchitis. There were several cases of broncho-pneumonia, and what was very suggestive was that seven cases of typical lobar pneumonia occurred among the babies. While no bacteriologic study was made at the time, I believe now that it was an epidemic of pneumococcic infection.

During this season I have seen two very severe cases of follicular tonsillitis which were diagnosticated as diphtheria by physicians, both of which were caused by a diplococcus which very much resembled the pneumococcus. We have, then, other bacteria than the influenza bacillus which can produce a wide-spread respiratory disease, and for this we are in reality in need of a name. It is misleading to call them "colds," and to designate them by their anatomical position, such as bronchitis, pharyngitis, does not express the true condition, since the seat of the morbid process changes. This is certainly confusing at least to our patients who cannot see the relation of grip and bronchitis. In a family we can have cases of croup, bronchitis and adenoiditis, all depending on the same bacterial cause, and should be designated by some name which shall express their common origin. Until these different infections shall be more definitely grouped clinically, we must be content to call them all acute respiratory infections, or rhino-bronchial infections; or when the cause is known, as in the epidemic studied, we may say respiratory pneumococcosis. To our patients we speak of "grip." In conclusion, I desire to urge the frequent microscopic examination of the sputum and nasal secretion, for it seems in many cases an adequate idea of the bacteria present may be thus obtained.

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EDITORIAL COMMENT.

A NEGLECTED INQUIRY IN THE CAUSATION OF PNEUMONIA.

It is rather singular that so little attention has been given to the morbid conditions which are associated in the members of families and institutions where one or more cases of lobar pneumonia have originated. This is the more surprising since the wide prevalence of pneumonia at certain seasons of the year is a well-established fact, and the suspicion that the diplococcus pneumonia must find special favoring conditions for its propagation and growth is very readily verified. And yet the actual transference of the germ from one case of pneumonia to another seems probable in exceptional cases only; the family epidemics of pneumonia are by no means infrequent, but the rule in private practice is that only one case occurs in a family.

What is more rational to assume, then, that some other morbid condition other than pneumonia is caused by and serves as the means of transfer of the diplococcus pneumonia?

The researches of a few modern investigators, as pointed out by Zahorsky in this number, tend to prove that bronchitis, tracheitis and rhinitis—very common affections—are produced in many epidemics by the same micro-organism which causes pneumonia; and it is these mild affections, which ordinarily pass under the erroneous name of “colds,” that serve in the transference of the germ.

The neglected inquiry to which we refer is the failure to observe the presence of “colds” in other members of the family. In recording the history of the onset and development of a case of pneumonia, the other cases of respiratory disease prevalent in members of the family and in the community should be carefully collected and recorded. Whenever possible, bacteriologic examinations of these cases should be made and the organism present compared with those found in the pneumonic infections.

The practical value of this inquiry is obvious when considered from the standpoint of prophylaxis. The disease—the greatest scourge of modern times—can only be controlled when efforts directed to the eradication of pneumococcic bronchitis and rhinitis are effective; and the task seems impossible at present.

The fact that the pneumococcus is found in the saliva of many healthy persons probably does not serve as a means to propagate the disease. More dangerous are the pneumococcus bronchitis when the act of coughing throws the germs into the air and are then inspired by others. The development of pneumonia depends on the number of pneumococci that reach the alveoli and the bacteriolytic power of the bronchial secretion.

A large number of the first or a deficiency of the second permits the victory of the bacteria.

PSEUDO-HERMAPHRODITISM.

In an article on the "Value of a Knowledge of Pseudo-hermaphroditism for the Practitioner," which appears in this number, Dr. Franz Neugebauer, of Warsaw, points out the frequency with which surgeons make mistaken diagnoses of sex in these cases. Many a supposed girl has been operated on for a hernia that in reality proved to be merely the delayed descent of the testicle. Similarly other operative mistakes have been made. The author, therefore, warns against any radical measures before sex has been determined.

The necessity of such a warning is well illustrated by Dr. Goffe's case, published in the December number of the *American Journal of Obstetrics*. The patient had been raised as a girl, and according to the surgeon the "female characteristics predominated." If one is to judge by the description and illustrations of the case, it is hard to see how Dr. Goffe arrives at this opinion. The possibility, nay, even the probability of a male hypospadias with undescended testicles seems the more rational conclusion. At any rate, the sex was uncertain, as Dr. Goffe himself admitted. The patient had an organ resembling a penis and beneath it an opening like that of an atrophic vagina. She was asked whether she wished to be made like a man or a woman. To this she answered "a woman" and the surgeon thereupon amputated the penis and enlarged the vaginal opening.

While we will not deny the possibility that the individual in this case may have *guessed* her true sex, the principle of allowing our patients to decide such questions is bound to lead to serious consequences. A case in point is that of Berendes-Landau, quoted by Neugebauer, where several years after a plastic operation similar to Goffe's, the patient was found to be a man. Hence Neugebauer argues justly the advisability of a diagnostic laparotomy. Five such operations have already been made. The procedure under modern asepsis is practically harmless and since the future happiness of the individual may depend greatly upon it, is certainly justifiable.

In a new series of six cases just published (*Centralblatt fuer Gynaekologie*, January 16, 1904), Neugebauer shows how in three of them only a laparotomy served to settle finally the true sex of the individual. On principle, therefore, we must shun all such plastic operations as Dr. Goffe performed until every means of ascertaining the true sex of the individual has been exhausted.

TUBEROUS IODIDE OF POTASH ERUPTION SIMULATING HISTOLOGICALLY AN EPITHELIOMA.

Dr. D. W. Montgomery, of San Francisco, publishes in the February number of the *Journal of Cutaneous Diseases* an interesting case of iododerma. The point of interest lies in the fact that although the patient had numerous tuberculous lesions caused by the administration of iodide of potash, yet the histologic picture was that of an epithelioma. "Many of the fields under the microscope looked exactly like epitheliomatous infiltration. There was the same appearance of connective tissue *laculi*, solidly filled with atypical epithelial cells. It is true that the whole process took place above the level of the skin, but this is a clinical not a pathological observation, and one receiving such a piece of tissue in the laboratory for examination, without a most carefully worded history and without seeing the patient, might easily fall into the error of supposing the affection to be an epithelioma."

If only one lesion should occur in such a case with the histologic picture of this character, a diagnosis of epithelioma would be a natural sequence and error. The possibility of such an error Dr. Montgomery has never seen mentioned in the diagnosis of epithelioma. This acanthotic action of iodine has been noticed by Ehrmann and also by Norman Walker.

The study of drug eruptions, both histologically and chemically, is a fruitful field of research. Iodine and bromine cause many polymorphic conditions in the skin, often simulating various diseases, especially syphilis. It is at times exceedingly difficult to differentiate between certain syphilides and forms of tuberculous or pustular eruptions caused by either iodine or bromine. The resultant scar or previous scars from a similar process are also the cause of much misleading confusion, as they exactly simulate those of a syphilitic nature. Then, again, we may have, in a local syphilitic disturbance in the skin, the substitution of the toxic pathologic effect of iodine when it is being administered for the cure of the former process. The lesion, therefore, increases in its dimensions, becomes larger and more aggressive, apparently indicating the necessity of increasing the dose of the iodine, whereas the cessation of the iodine altogether is indicated; when this is done, resolution rapidly ensues. This confusing fact in the administration of iodine was referred to by the writer in the *Medical Review*, August 17, 1901, in an article entitled "Some Complications of Syphilis of the Skin and Their Treatment." Montgomery, in this report, confirms this observation, attributing the toxic action to kidney insufficiency. Upon the skin the toxic action of drugs is directed to points of previously existing irritation or inflammation, which law also applies to the local action of microbic toxins, as can be illustrated in syphilis, variola and other diseases. In these diseases the eruption often sharply outlines the points of former irritation, such as that produced by a truss, garter or suspender, and when, from any cause, the toxic action of any drug is brought about, its greatest effect is observed on the former pathologic tissue. This fact gives a clue to the pathology of iodine and bromine acne of the usual type, also to the therapeutic action of iodine upon the skin.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

The Serum Treatment of Typhoid Fever.—EINHORN (*Medical Record*, January 16, 1904) reviews the work done thus far with the anti-typhoid serum, and reports the results of its application in a number of cases under his own observation. Though his material is too small to enable him to come to far-reaching conclusions, he corroborates in part at least the results claimed by Jez, viz.: (1) The anti-typhoid extract is of specific therapeutic value against typhoid fever only; (2) it is a harmless preparation which can be given in large doses without any untoward effects; (3) it is an aid in differential diagnosis; (4) if given uninterruptedly in typhoid fever, it decreases the temperature and strengthens the pulse; (5) it shortens the duration of typhoid fever and diminishes or neutralizes completely the effect of the toxins of typhoid fever; (6) taken per os it naturally cannot cause any such complications as sometimes result from subcutaneous injections.

Einhorn finds that while the use of the serum does not seem to materially shorten the disease, it does improve the general condition. The sensory and nervous symptoms are especially much improved, so that some grave complications, such as sleeplessness, headache, restlessness, delirium, etc., disappear entirely.

The injections do not seem to be connected with any dangers, and only in one or two cases were even slight disturbances noted.

The writer believes, therefore, that the serum treatment of typhoid fever is now already of decided value, but that we shall soon have more potent sera.

Intermittent Insufficiency of the Kidneys in Arterio-Sclerosis.—LANDAU (*Berliner Klinische Wochenschrift*, No. 51, 1903) found through a series of cryoscopic examinations of the urine of arterio-sclerotic patients an intermittent insufficiency on the part of the kidneys. Clinically these cases presented only the evidences of arterio-sclerosis, without any signs of changes in the kidneys. The author is in doubt as to whether "intermittent renal insufficiency" may be considered a condition *per se*, or whether it is a forerunner of the contracted kidney, or whether it is a symptom of an existing interstitial nephritis which we cannot discover through ordinary methods.

Animal Experimentation in Tuberculosis of the Kidneys: Investigations Concerning the Urine of Tubercular Individuals.—SALUS (*Berliner Klinische Wochenschrift*, No. 50, 1903) points out the difficulties in arriving at a diagnosis of tuberculosis of the kidneys. The presence of smegma ba-

cilli in the urine, the small number of tubercle bacilli present in the urine in any case, and the doubt as to whether their presence alone justifies a diagnosis of renal tuberculosis, include a few of the difficulties which beset the path of the diagnostician. It has been frequently shown recently that tubercle bacilli may find their way into the urine from lesions located in other parts of the body than the urinary tract—for instance, the lungs.

Through careful catheterization the smegma bacilli may be practically excluded, for they exist on the external parts and rarely get deeper than the anterior urethra.

The most exact method of determining the presence of tubercle bacilli is that of animal inoculation. The urine must be collected under the most careful aseptic precautions, likewise centrifugated. The sediment is injected into guinea-pigs subcutaneously, and the pathologic changes resulting are carefully observed.

In doubtful cases, other positive findings permit of no definite conclusions. The author lays special stress upon persistent and frequent examinations.

Tuberculosis and Pregnancy.—HAHN (*Berliner Klinische Wochenschrift*, No. 52, 1903) after a careful study of pregnancy in tuberculosis, the influence of the one upon the other, concludes that pregnancy should be considered a severe complication of tuberculosis, and that it is more severe the oftener it occurs. He believes that in the effort to stamp out tuberculosis, the prevention of conception in tuberculous women is a most important factor.

After pregnancy, however, has occurred, the patient should be kept under careful observation by the physician. If unpleasant complications arise, artificial abortion should be done in the presence of a second physician, by and with the consent of the patient. The life of the mother should be placed above that of the child.

In the late months of pregnancy the production of artificial abortion has no advantages over normal labor; in fact, is rather a dangerous procedure. Then, too, inasmuch as a tuberculous mother may give birth to a perfectly healthy child, which, when brought up under proper conditions, has every chance for life, it would be wrong to sacrifice a child unless absolutely necessary.

The author suggests that organizations intended to aid those with tuberculosis should give every possible consideration to pregnant women, for pregnancy, even under normal conditions, is a great tax upon the human organism. The author is not in sympathy with those authorities who recommend artificial abortion in the pregnancy of all tuberculous women.

The Resorption of Iodine and the Usefulness of the Penzoldt-Faber Test for Determining the Motility of the Stomach.—INOUE (*Archiv fuer Verdauungskrankheiten*, Vol. 9, Pt. 6) came to the following results after experimentation, with reference to the absorption of iodine by the stomach:

The iodides are broken up slowly by hydrochloric acid, but are scarcely affected within one hour by the normal amount of hydrochloric

acid (0.2 per cent.) in the gastric juice. Iodine in aqueous solution is absorbed in the stomach of dogs and cats.

The injection of Lugol's solution into the stomach does not stimulate the secretion of normal gastric juice.

Dilute alcoholic solutions (0.1 per cent.) are very slightly absorbed by the mucous membrane of the dog's stomach, but produces a severe inflammation of the mucous membrane with transudation.

The injection of concentrated solutions of iodide of potassium into the stomach does not bring about the secretion of gastric juice nor of HCl. When the iodine reaction occurs in the saliva, it was found that the iodides are well on their way through the intestines.

Within five minutes the iodine reaction was found some distance from the stomach in the small intestine, and had not yet appeared in the saliva.

The author believes, therefore, that the presence of iodine in the saliva is due to the absorption in the intestines, and not in the stomach. If such is the case, then the Penzoldt-Faber test may be utilized to test the motility of the stomach.

The Successful Treatment of an Inoperable Sarcoma With the Roentgen Rays.—CHRYSPATHES (*Muenchener Medicinische Wochenschrift*, No. 50, 1903) reports a case of sarcoma involving the anterior abdominal walls and small intestines in a woman thirty-five years of age, cured through the application of the x-rays.

An effort to remove the tumor, which had attained the size of a child's head, was futile. The influence of the Roentgen rays was first seen in the absolute relief from pain. The infiltrated area around the operation scar began to soften, and finally broke open, discharging a large amount of reddish fluid. The opening closed within a few days, and the patient's appearance and general condition improved rapidly. Within six months the tumor had disappeared entirely.

A Case of Primary Carcinoma of the Lung, Diagnosed From the Expectoration.—DEMAREST (*Medical Record*, January 16, 1904) reports a case of carcinoma of the lung, which for a long time simulated tuberculosis and was so diagnosed. He had been expectorating blood for many months and presented an area of consolidation in the apex of the right lung. He had been advised to go to the Adirondacks, though there had been no elevation of temperature nor tubercle bacilli in the sputum.

Upon consulting the writer, the patient brought a bottle containing clotted blood and a small mass of tissue.

The microscopical examination of this mass showed it to be carcinoma. The patient died four months later.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

A Further Consideration of the Necessity of Immediate Celiotomy in Penetrating Wounds of the Abdomen in War.—FLAGG (*Journal of the Association of Military Surgeons*, November, 1903).—Nine out of the sixteen such operations done by army surgeons were performed in fixed hospitals where, as the author very properly asserts, everything should be in as good condition for such work as it is possible to find it, else it is directly the fault of the surgeon in charge. This long article contains the opinions of a large number of surgeons on this subject, and judged by the great number of statistics offered, it represents a great amount of work. The author rightly challenges the statement that the chances of any man wounded in war have been taken away by an operation. He speaks of the Connell suture as the best one at our command today for the purpose of closing holes in the intestines. The high mortality existing at present can be lowered in no other way than that now advocated; late operations of this class form the most dreaded chapter of civil surgery, and it remains for military surgeons to properly equip themselves to handle them properly. With the aid furnished by the government, no surgeon has any excuse for being unable to cope with these cases at the present time.

This article is far in advance of its time, when we read from the military surgeons almost everywhere that they are content to let the soldier with a bullet through his intestines be considered as lost.

The Circulus Vitiosus After Gastro-Enterostomy.—FOEDERL (*Wiener Klinische Wochenschrift*, No. 41, 1903).—This most interesting and logical article contains many mechanical points which are not sufficiently taken into account by the surgeon. It is worthy of note that the surgeon (Czerny) who has made his anastomosis nearest the plica duodeno-jejunalis, has attained the best results, never having been troubled by the accident of which the author writes. Experiments on the dead gut show that water will leave an overfilled stomach much more slowly than it will one which is only partly filled—that is, after gastro-enterostomy. Further, the swelling of the mucous membrane around the edges of a freshly made opening may be so great as to completely block the same. Another interesting thing is that the convex surface of the gut is shortened at the operation and the concave surface thus made relatively too long. The mucous membrane of the gut may thus be forced into the new opening in just the same way that it blocks the lumen of the intestine when there is a hernia of a part of its wall. This undesirable state of affairs, which the author believes is the cause for many cases of circulus vitiosus, is remedied by simply shortening the mesentery opposite the opening in the gut; he accomplishes this by three stitches in a manner shown by cuts and very simply.

On the Results Obtainable by Operative Measures in Affections of the Stomach.—JOHN B. MURPHY, M. D. (*Annals of Surgery*, December, 1903).—Murphy lays great stress on the diagnosis of early cancer, but further than this upon a diagnosis and removal of the conditions which predispose to that form of malignant growth. This has reference, of course, chiefly to ulcer of the stomach and its results. These latter conditions must be determined upon the operating table at exploratory laparotomy and exploratory gastrotomy. The article contains a great deal of statistical material and is, further, of interest since it holds much of the author's personal experience.

Diffuse Aneurysm of the Popliteal Space.—M. LE FORT (*Bulletins et Mémoires de la Société de Chirurgie de Paris*, 5 Janvier, 1904).—The patient, a man of fifty-two, had received a bullet wound in the popliteal region two months previous to his entering the hospital. Only two days before he came in he had noticed a tumor forming in this region, and on account of the same increasing rapidly in size he sought surgical aid. The space referred to was entirely filled by the mass, which presented all of the characteristic symptoms of an aneurysm. It was apparent that the sack would rupture soon unless something radical was done, hence an operation was determined upon. On opening the sack it was seen to be lined with a smooth membrane which corresponded in every particular to the ordinary lining of the blood vessels, and at its lowest portion it presented an oval opening which apparently communicated with the interior of the artery. The sack was cut away and the edges of the oval opening freshened and sewn together with catgut. The operative result was perfect in every particular, but when the dressings were removed the same region was found filled out by a tumor very similar to the first. Upon examination it was found that an absolutely new aneurysm had formed at the side of the old one, the stitches having held and the former wound in the vessel having healed perfectly. A large portion of the artery was now completely removed with the result that the trouble was cured.

The Technique of Artificial Anemia.—SIEGFRIED SPIEGEL (*Zentralblatt für Chirurgie*, December 26, 1903).—The author recites all of the well-known disadvantages which the ordinary Esmarch bandage possesses. It takes time to put it on, it takes strength, technical ability and often presents an impediment to perfect asepsis. The material of which it is made deteriorates and it is often very difficult to remove the bandage; but worst of all, it cannot be partially removed, as may be desirable in closing up a wound. To meet all of these difficulties the author has devised a silk strap which is wound up on a small metal reel. This can be completely sterilized, can be built quickly at any desired tension, and can be wholly or partially loosened in an instant at the will of the operator. Several well-executed cuts serve to illustrate the device better than any verbal description can.

The Dangers of the Trendelenberg Position.—P. KRASKE (*Archiv für Klinische Chirurgie*).—This very interesting article relates the dangers which may arise in the course of a procedure which is so com-

monly used as to make the paper of decided interest and value to all of us. The principal dangers which the author has seen arise during the course of operations under these circumstances are, first of all, heart disturbance in an already diseased organ, these being due to the fact that the blood pressure was raised on account of the elevated position of the lower portion of the patient's body and extremities. In other cases he has seen intestinal obstruction arise from the fact that a thick, heavy omentum slid to the upper portion of the abdomen by virtue of its own weight, and in this manner dragged with it or entangled the hollow viscera. Knowing that such dangers are present, it seems to the reviewer that it becomes now a small matter for the operator to obviate them, in the first case by failing to use this position in patients who present cardiac disturbance, and in the second instance, to strike out or draw down the omentum or other viscera after a patient has been for a long time in this position.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

Urotropin as a Prophylactic in Scarlatina.—J. WIDOWITZ (*Wiener Klin. Wochenschr.*, No. 40, 1903).—According to the writer's observations the administration of urotropin prevents the occurrence of nephritis after scarlet fever, probably as a result of the antiseptic properties of the drug. As is well known, the therapeutic effect of urotropin in cases of cystitis and pyelitis depends on the fact that formaldehyde is set free in the uropoetic organs. Proceeding on the hypothesis that scarlatinal nephritis is due to a bacterial lesion of the kidney parenchyma and that this complication could be prevented by the administration of a urinary antiseptic, the writer has been in the habit of giving urotropin in scarlatina, as follows: At the beginning of the attack and again during the third week, he orders urotropin given for a period of three days, three times daily, in doses varying from 0.05 to 0.5 grams, according to the age of the child. In none of the 102 cases in which this therapy was used did a nephritis occur.

The writer admits that the number of cases observed by him is too small to establish the value of urotropin in this condition, but hopes his results may lead to further observations.

Pilocarpine in Croupous Pneumonia.—OTTO PELZL (*Wien. Med. Presse*, No. 37, 1903).—The good results obtained by the use of pilocarpine in pneumonia and reported by the writer sometime ago, led to the observation and publication by him of thirty-three more cases treated in this manner. A single dose, consisting of twenty drops of a one per cent. solution of pilocarpine was given in each case, whereby a very active diaphoresis was produced. Usually the pilocarpine was given on the

second day, the first day being devoted to a vigorous course of digitalis, especially if the circulation seemed below par.

In general, the results of this treatment were very good. In half the cases, the administration of pilocarpine was followed within forty-eight hours by a permanent cessation of fever; in one-third of the cases, the fall of temperature was but temporary; in the rest, no effect upon the temperature could be noted. Even in these cases, however, the result of the treatment cannot be called *nil*; the increased comfort of the patient after the sweating, the diminution of the dyspnea and painful cough, the more profuse expectoration, all render the patients more comfortable and usually result in several hours of deep and refreshing sleep.

A Modification of Two Classical Arsenical Preparations.—M. DANLOS (*Rev. franc. de Med. et de Chir.*; *Centralbl. f. d. ges. Therapie*, No. 12, 1903).—In general, larger quantities of arsenic are borne by the organism when given in the form of "Asiatic pills" than when given as Fowler's solution. The only objection to the former lies in the fact that old, hard, Asiatic pills may sometimes pass through the digestive tract without being disintegrated. Instead, therefore, of the usual formula of the French pharmacopœia:

R Acid arsenios.....	0.5
Pulver. nigr.....	5.0
Gummi arab.....	1.0
Aq. q. s., m. f. pilul. No. C.	

The writer prescribes:

R Acid arsenios.....	0.5
Glycerini.....	3.0
Pulv. nigr. porphyris.....	5.0
Pulv. gentian, q. s. u. f. pilul. No. C.	

This formula has the following advantages: (1) the arsenic being dissolved in glycerin is finely divided; (2) the same reason lessens its irritative effect on the mucous membranes; (3) the pills remain fresh a long time.

Mercury Hypodermically.—M. DANLOS (*Nouveaux Remedes*, No. 9, 1903); L. JULLIEN and F. BERLIOZ (*Nouveaux Remedes*, No. 10, 1903).—Dr. Danlos discusses the hypodermic administration of calomel in erysipelas. No form of mercury, he believes, has been found more valuable in obstinate cases of tertiary syphilis than calomel injected hypodermically, or, rather, intramuscularly. All the vehicles hitherto used for suspending the calomel are, however, open to objections. Water will not do at all. Vaseline and the oils dissolve the calomel very slowly and tend to form nodes which prevent the absorption of the drug and may give rise to emboli. Glycerin is very painful, and the gums, which have found advocates, are difficult to sterilize. The writer has found a solution of sugar of greatest service. The sugar solution and the calomel are sterilized separately, mixed in a sterile container and injected by means of a sterile syringe. Jullien and Berlioz have studied some new

mercury compounds for hypodermic medication in syphilis. By combining ammonium cacodylate with oxide of mercury they obtained cacodylate of mercury, a gray powder very soluble in water and containing 56 per cent. of mercury. The dose is one-third to one-sixth of a grain and is well borne. By dissolving the yellow oxide of mercury in a solution of ammonium chloride they obtained a new salt, the ammonium-chloro-mercureate, which is used in the same dose as the sublimate but is usually somewhat better borne.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

About Experimental Syphilis.—E. METSCHNIKOFF and E. ROUX (*Ann. de l'Inst. Pasteur*, 1903, u. *Deutsch. Medic. Woch.*, 1903, No. 52).

About Inoculation Experiments with Syphilis on Anthropoid Apes.—O. LASSAR (*Berl. Klin. Woch.*, 1903, No. 52).

Metschnikoff and Roux report the result of the inoculation of fresh syphilitic virus (chancre) into a female chimpanzee; they observed the appearance at the point of inoculation of an ulceration clinically identical with a syphilitic chancre. (Period of incubation twenty-five days.) A month after the appearance of the lesion on the skin of the animal fifteen squamous papules were observed. Both lesions healed and the animal remained well for fourteen weeks, when it died of a pneumococcus infection. From the secretions of this chancre of the female chimpanzee, on the forty-fifth day from its appearance, a small amount was inoculated into the penis and hip of a second chimpanzee by scarification. Beginning with the thirty-fifth day after this inoculation typical ulcerations developed in both places and gradually the regional lymph glands became enlarged. While the chancre on the leg healed within a month, the penis lesion enlarged and the glandular involvement persisted until the animal died of an intercurrent disease on the forty-fifth day of the experiment. At the autopsy nothing pointing to syphilis could be discovered: there is no report about a microscopic examination.

Lassar reports similar experiments on a chimpanzee by inoculation of the virus into slight wounds on the face and lip. In two weeks two of the places began to indurate and gradually assumed the appearance of a primary lesion, and later a third one developed. After some time secondary skin phenomena were noticed, very much resembling those of syphilis, enlargement of the cervical glands accompanying the development of the chancres. In a postscript Lassar reports that one of the ulcerations had been excised and microscopically examined, and the typical structure of an initial sclerosis found. The published micro-photographs of the sections are convincing. Another experiment with inoculation on the penis was only lately commenced but so far has given no results.

These two papers, appearing at the same time, seem to leave no doubt that at last experimental syphilis has become a tangible subject of investigation.

The Occurrence of the Colon-Bacillus on the Hands.—C. E. A. WINSLOW (*Jour. of Med. Research*, December, 1903).—That the infection in typhoid fever is not always water borne or milk borne, but that not rarely it must occur direct from patient to patient, has been shown seemingly by a number of published experiences. The author, therefore, made an extensive investigation into the bacteriologic flora of the hands of a great number of persons, directing his efforts towards the discovery of the colon-bacillus. He examined the water obtained by washing the hands of three persons and could demonstrate the bacillus in ten cases. This would make it easy to understand how readily the typhoid bacillus may be transmitted by the hands of those affected with the disease or of their non-professional attendants.

Yellow Fever.—MARCHOUX, SALIMBENI and SIMOND (*Ann. de l'Inst. Pasteur*, November, 1903).—This paper forms the report of a commission that was sent to Brazil by the Paris Pasteur Institute to investigate the epidemic of yellow fever existing there. The commission spent its time in Rio de Janeiro from November, 1901, until late into 1902. The results of their investigations need not be detailed here, for the reason that they were well known by American scientists before they were published. Rarely has it occurred that an important discovery found such complete confirmation, going into the minutest details, as has the classic work of Reed, Carroll and Lazear by the researches of the French authors. Partly based on the work of the Americans, and supplied with an abundance of material and facilities, they have added nothing of importance to the known facts: they could only confirm what Reed and Carroll had already said, so that this paper is one of the greatest recognitions ever accorded an observer of the almost complete exhaustion of a subject. This is the more gratifying, since this recognition is given by the French colleagues with admiration and enthusiasm. An interesting detail may be mentioned referring to the fact that the authors have studied very closely the mosquito parasite, alleged by the working party to be the etiologic factor of yellow fever; they concluded, of course, that no such connection exists. The paper proves that the work of Reed and Carroll represents so far the whole of what we have learned of the etiology and pathology of yellow fever.

On the Appearance and Significance of Certain Granules in the Erythrocytes of Man.—VICTOR C. VAUGHAN, JR. (*Journal of Medical Research*, December, 1903).—The nature of the basophilous granulations of the red corpuscles has been widely discussed, and while in a routine way considered as a phenomenon indicating degenerative processes of the discoplasm, several observers have always connected them with the disappearance of the nucleus. Lately Schmidt (and the reviewer) compared the evidence for both sides, and from a thorough investigation of the conditions under which the granulations occur, concluded that in-

stead of a degenerative, they must be rather indicators of a reconstructive tendency of the blood condition found. The increase of the number of granulated cells appearing in blood is always the sign of a stimulated activity of the hematopoietic centers, the granules being only the remnants of nuclei of corpuseles that are sent into the circulating blood before the usual appearance is attained. In an ingenious and fascinating paper Vaughan publishes observations that finally settle the question in this direction. Instead of examining dried specimens, he used the method of staining the blood by polychrome methylene-blue *intravital*. The granules stain with the methylene-azur quota of this fluid. From 0.5 to 2 per cent. are present in the corpuseles in normal blood, and in the study of pernicious anemia, of fetal blood and of bone-marrow we can observe their formation through the disintegration of the nucleus. That they are so rarely seen in dried specimens is due to the fact that the drying leads to a homogeneous diffusion of the nuclear debris through the discoplasm, thus producing the phenomenon known as polychromasia. Very interesting and important, also, is the fact that the blood-platelets show the same granulations, and since the consensus of opinion has long since brought these bodies into connection with retrogressive changes in the red cells, their nature as nuclear residua has found a new confirmation. In this connection must be mentioned the old observation that where granulated corpuseles abound platelets are very scarce (pernicious anemia), and *vice versa*. Vaughan has conclusively established the nuclear origin of these granulations.

A Hitherto Undescribed Fibrillar Substance Produced by Connective Tissue Cells.—F. B. MALLORY (*Jour. of Med. Research*, December, 1903).—By means of a modification of his connective tissue stain, Mallory has discovered connective tissue fibrils in certain locations different from the ordinary forms. He sums up his conclusions by stating that connective tissue cells produce, in addition to elastic fibres and the ordinary intercellular fibrils, a third variety (fibroglia-fibrils), which differs from the others chemically and morphologically, and which have the same staining qualities apparently as the coarse, differentially staining (myoglia) fibrils of smooth muscle cells. The fibroglia-fibrils bear the same relation to the connective tissue cells that neuroglia cells bear to the neuroglia cells. They are present in great numbers in all actively growing connective tissue, both of inflammatory and of tumor origin. They are scarce in normal tissues, except perhaps in certain situations; they apparently form the true basement membrane of the tubules of the kidney, of the coil-glands of the skin and of the glands and ducts of the breast. They also occur in abundance beneath the endothelium lining the arteries and the larger veins. It is not easy to suggest the significance of these fibrils. It is hardly conceivable that they give rise to the ordinary fibrils by splitting or by diminishing in thickness and by changing in chemical properties. Their presence in intimate relation to the protoplasm of the cells is, perhaps, an argument in favor of the view that the ordinary fibrils are intercellular in origin and not a cast-off product of the protoplasm.

Contributions to the Doctrine of Natural Immunity.—K. KISSKALT (*Zeitschr. f. Hyg. und Inf. Krankh.*, Vol. 45, Heft 1).—By inoculating mice, subcutaneously or otherwise, with virulent and avirulent bacteria, the author tries to solve this problem. His method is the microscopic examination of the tissues at and in the neighborhood of the site of infection. He says that his investigations have shown that only in the leucocytes may we assume to be present the natural protective powers against pathogenic bacteria, the latter being eliminated by phagocytosis. The active agent in natural immunity is, therefore, not preformed in the body-juices. The degree of the virulence of a bacterium does not depend upon its resistance to the protective powers of the body, but, above all, upon the degree of its toxic effect, this latter quality preventing the leucocytes from devouring the microbe or sequestering it by accumulating around it.

Studies About the Intestinal Origin of Tuberculosis.—E. NEBELTHAU (*Muench. Medic. Woch.*, 1903, u. *Klin. Jahrbuch*, Vol. 11, Heft 4).—Koch's publication about the question of the identity of human and bovine tuberculosis gave stimulus to this investigation. Nebelthau introduced tubercle bacilli into the small intestine of larger animals (dogs, goats, calves). For this purpose he used a very ingenious method of interrupting the continuity of the intestinal tube, and he concludes that the intestinal secretion must not be taken into account in the prevention of an infection by means of virulent bacilli. It is not necessary that ulcerative lesions follow the introduction of the bacilli; in dogs such lesions are not found even after a period of two weeks. The tubercle bacilli can penetrate the intact intestinal wall and lead to tuberculous formations, though of quite varying character. The intestine of goats is less resistant than that of the dog, and in the goat extensive lesions can be produced. The calf exhibits about the same degree of resistance as the dog. These experiments are the basis on which the author formulates or tries to formulate conclusions as to the epidemiology of tuberculosis in man and animal. The modes of infection in man are discussed, especially the infection by way of the intestine. For reasons analogous to those given by Behring, he prefers the study of this infection in children. The statistics compiled by him lead him to the statement that probably in 19 per cent. of the cases the infection in children occurs from the intestine. In opposition to the views of Koch, the position is taken that this infection can occur, and often does occur, without producing local lesions in the structures of the alimentary canal. The condition of the juvenile intestine resembles that of the goat more than that of the calf.

For further studies two questions have to be considered separately: the susceptibility of the wall of the intestine for tuberculous infection, and its permeability for the bacilli. *A priori*, we are justified in believing that the latter may gradually decrease in the course of years, while the susceptibility for developing local lesions may persist or only slightly change, so that it would take a greater and more general depression of the whole constitutional condition of the organism to favor an increase of this susceptibility. As is well known, the greater permeability of infantile mucosæ for tubercle bacilli in young animals was

established by the studies of Behring and Roemer, and these investigations found their anatomical explanation by the work of Disse.

Summing up, Nebelthau deals with the problem brought out by Koch: the problem whether bovine tuberculous material can cause tuberculosis by introduction into the human intestinal tract. Koch denies this. The great material examined by the author in the polyclinic of Halle showed that in each case direct infection from one person to the other had occurred. It is only a concession to routine sanitary rules with regard to a possibly highest and most effective prophylaxis, that the author for the present recommends to figure with the possibility of an infection of the respiratory as well as of the intestinal tract by both the human and the bovine bacilli.

Contributions to the Etiology of Tuberculosis.—F. MITULESCU (*Zeitschr. f. Hyg. u. Infect. Krank.*, 1903, Vol. 44, Heft 3).—Mitulescu reports the results of his examinations of books and journals of public libraries. He searched in ninety-seven of these books for tubercle bacilli, by injecting into guinea-pigs the water with which leaves from the books had been washed. More than a third of the animals developed tuberculosis. It must be mentioned that this occurred only with material from books that had been in use for longer than three years (3-6). Besides those animals dying of tuberculosis, a number of others succumbed to septic infection or to malignant edema.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

A Critical Consideration of Modern Gynecological Operations.—FRITSCH (*Chrobak-Festschrift.*, 1903; rev. *Centralbl. f. Gyn.*, No. 49, 1903).—The writer begins with the mooted question whether to operate by the abdominal or vaginal route. He warns against the tendency of certain gynecologists to use but one of them on principle, and advises those who prefer the vaginal route not to exaggerate the dangers of laparotomy. In cases of fibro-myoma, the vaginal operation will be permissible if the patient has borne children, if the vagina is wide and the tumor not too large. In all other cases laparotomy must be given preference, especially if the tumor is intraligamentous, if the uterus shows a very irregular form and suggests the possibility of a conservative myomectomy. Fritsch believes that the man who operates upon myomas on principle by the abdominal route will meet with fewer disappointments and accidents than the man who always operates through the vagina.

The author is very emphatic in advocating the abdominal route in all cases of purulent inflammations of the uterine appendages. He prefers laparotomy in the removal of ovarian cysts, even if they are small. He operates through the posterior vaginal fornix in cases of pyosalpinx only when the tumor can be pulled down into the vagina with the uterus. He

approves of the vaginal way in cases of ectopic pregnancy only if the fetus is dead and the operation is performed with the idea of removing an old hematocele.

Interesting are the author's views on the question of carcinoma. He does not believe in the extensive abdominal radical operations of the present day. He wants all operative interference limited to early cases, and he believes that for these "good" cases the vaginal panhysterectomy will soon regain its old favor.

Two points are of importance in a consideration of all the various operations devised for the rectification of malpositions of the uterus: first, the danger involved in the operations and their sequelæ, secondly, the results as far as recurrence is concerned. From this point of view the writer arranges the operations as follows: Ventrofixation is the most effective of all operations, and it fits almost every case. The operation of Alexander-Adams is almost free of danger, and in cases of freely movable uteri just as serviceable as ventrofixation. Vagino-fixation and vesicofixation, in the author's opinion, do not offer any advantages, but have some drawbacks: therefore, these operations should be reserved for cases in which the operation of ante-fixation is intended to be combined with some other interference—*e. g.*, sterilization, extirpation of small tumors, etc.

The Exaggeration of the Tendon Reflexes in Patients Suffering From Cancer.—DE BUCK and O. VAN DER LINDEN (*Presse Medicale*; rev. *Centralbl. f. Gyn.*, No. 51, 1903).—The writers have observed that a distinct exaggeration of the tendon reflexes may be found in almost every case of carcinoma or sarcoma. As a rule some of the skin reflexes, especially of the abdomen, are also increased. They believe that a careful examination of all the reflexes will prove a valuable aid to the clinician in doubtful cases. This increase of the reflexes is more pronounced in the earlier stages of carcinoma.

Does the Appendix of the Fetus Contain Meconium?—A. LOW (*London Lancet*, May 3, 1903).—The opinion seems to prevail that the fetal appendix does not contain meconium. Low found in twenty-five post-mortem examinations that the lower portions of the small intestines contain meconium as early as the fourth month of pregnancy, the large intestines and rectum become filled between the fifth and eighth month. The appendix contained meconium in every case after the fourth month.

Pregnancy in Girls Under Sixteen Years.—G. PICARD (*Revue Prat. d'Obstetr.*, 1903; rev. *Centralbl. f. Gyn.*, No. 51, 1903).—Among 31,921 women delivered in the clinic of Professor Picard, of Paris, there were but 38 younger than sixteen. They had menstruated for the first time at an age between ten and a half and fourteen, and as a rule had become impregnated after very few sexual acts, in several cases after but one. They did not offer any abnormalities during pregnancy. One had an albuminuria, another a few slight eclamptic convulsions. Twenty-nine carried to full term, seven were delivered prematurely; in two cases the fetus died before labor, in one instance due to syphilis. No noteworthy abnormalities were observed concerning labor. The average duration of

labor was eleven hours, the longest having been twenty-two hours, the shortest three and a half. All deliveries were spontaneous. The puerperium was that usually observed in primiparae. The average weight of the newborn children was normal. Picard's observations explode the teaching of some authorities, that in early life disturbances and irregularities in the course of pregnancy, labor and the puerperium are often seen.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Pulse and Arterial Tension in Diphtheria.—DENIS (*Rev. Mens. des Mal. de l'Enf.*, December, 1903) basing his observations on about 400 carefully studied cases, believes that a knowledge of the character of the pulse and the arterial tension in diphtheria is of decided value from the standpoint of prognosis. The diphtheritic toxin causes an increase of the pulse rate and a lowering of the arterial tension, and the degree of change is a measure of the intoxication. In moderately severe cases the average pulse rate runs from 100 to 120. Grave cases usually show a somewhat higher rate, but the rate never remains over 140 for any great length of time: either death supervenes early or marked improvement sets in. Indeed, some authorities go so far as to say that "death is the rule if the pulse exceeds 150." It has been noted that the injection of antitoxin is followed within a few hours by a decided fall in the pulse rate, except in the severest cases. Sudden increase of the pulse rate is usually a sign of bad prognostic import. The onset of convalescence is usually accompanied by a more or less marked bradycardia, but it is to be noted that in these cases the rhythm is perfect, the volume good and the tension normal or nearly so. Bradycardia with very low pulse tension is of the gravest prognostic import, so that sudden fall in the pulse rate associated with decided lowering of tension, is often the precursor of death. In the great majority of cases the pulse is regular throughout the course of the disease, although in the convalescence of very severe cases, irregularity and intermittence may occur. The direct estimation of the pulse tension may be of very great value, and the study of rate and tension together afford an excellent guide as to the general condition of the patient. [Of late, attention has been called to the value of systematic estimation of pulse tension as a means of determining the amount of stimulation necessary in a given case.—ED.]

Situation and Physiological Displacement of the Apex of the Heart Between the Fifth and Fifteenth Years.—TERRIEN and LAMY (*Rev. Mens. de Mal. de l'Enf.*, December, 1903).—In childhood the apex beat of the heart is in the fourth interspace, when the child is erect. In the horizontal position, the apex beat is found to the left of the midclavicular

line in the first years of life, in this line at about the seventh year, and within this line after this time. The authors have studied the actual mobility of the heart in children without cardiac or pulmonary lesion. The position of apex beat was determined in the following positions:

1. Dorsal decubitus, the child being absolutely horizontal.
2. Right lateral decubitus, with the right arm held at a right angle to the body, in order to have a uniform position for examination.
3. Left lateral decubitus, with the left arm at a right angle.

As the result of a great many carefully studied cases, the authors have reached the following conclusions:

In the dorsal decubitus, the apex is found in the fourth interspace, outside the midclavicular line up to the fifth year. At ten years, the apex reaches the fifth rib in the midclavicular line, and toward the fourteenth year it reaches the fifth interspace within the line.

In the left lateral decubitus, the mobility of the heart is found to be very considerable, even in the earlier years of life. The apex moves down and out. At five years the lateral motion amounts to about 4-5 inch, the vertical to 1-5 inch. At seven years the lateral movement is almost an inch and the vertical over half an inch. Between twelve and fifteen years the lateral movement amounts to 1 1-5 inches, and the vertical to 1 inch.

In the right lateral decubitus, the displacement is never nearly as great as in the left lateral, the movement amounting to about 3-5 inch, and being for the most part horizontal.

It was noticed, furthermore, that when the displacement in the left lateral position was considerable, it was only slight on the right side, so that the child must be placed in both positions, in order to judge of the complete cardiac mobility.

Some Cases of Infantile Nephritis.—FRY and MARTIN (*Arch. of Ped.*, January, 1904) report the results of the examination of the urine in one hundred infants under three months. The difficulty in obtaining specimens for examinations was overcome by the following expedients: In male children a bottle was firmly bound to the inner side of the thigh, and the child made to lie on the side until the specimen was obtained. In females, reflex stimulation of the bladder was used either by the application of cold to the pubis, or by direct manipulation of the meatus, a bottle being held in place to collect the urine. Of the one hundred infants examined, sixty-five were artificially fed and thirty-five breast fed. The reaction was acid in 64 per cent. of cases, neutral in 36 per cent., alkaline in none. It was noted that the older the infants the more liable was the urine to be acid.

Albumen was present in nineteen of the cases, varying from a trace to a distinct ring, by the Heller test. Of these cases fifteen were bottle fed and four breast fed. Of these nineteen cases seventeen also had casts, hyaline and granular mainly, a few epithelial, but no blood casts. Of the one hundred cases, however, thirty-one had casts—*i. e.*, fourteen had casts without albumen. Uric acid was abundant in twenty-six cases, twenty-three of which showed casts. Sixteen of these twenty-six cases died and autopsies were obtained in seven. Each of these showed parenchymatous nephritis with uric acid infarcts, while three cases showed

interstitial changes as well. In addition to the sixteen fatal cases six others had clinical evidence of nephritis. While the relation of increase of uric acid to nephritis in infancy cannot be considered settled as yet, it is significant that of the twenty-six cases in this series in which uric acid was increased, twenty-three had casts, and that of these twenty-three sixteen died. The authors do not believe that the nephritis of infancy is necessarily always associated with the toxic conditions incident to marasmus, and they consider it at least possible that there may be some connection between increase of uric acid and the production of a form of nephritis, which under favorable conditions may be recovered from without serious permanent disturbance.

Etiology of Rheumatism: Its Obscurity, Prevention and Management in Childhood.—According to Winters (*Medical Record*, January 9, 1904) rheumatism is caused by non-neutralized acid products of proteid metabolism. Deficiency of basic constituents and of vegetable acids in food, excess of animal proteid, particularly nuclein, imperfect oxidation and defective elimination are important etiological factors. Therefore, foods rich in basic constituents and vegetable acids, organically combined with vegetable proteid and with a minimum of animal proteid, together with proper oxidation, cure and prevent rheumatism.

To this end potassium and sodium compounds are all-important. Cereals, potatoes and bread are all rich in potassium and must, therefore, be taken freely. The salts of vegetable acids, by oxidation in the body, form alkali carbonates. Vegetable acids are thus also important articles of diet, to be obtained through the liberal use of fruits.

Attention is then called to the obscure nature and insidious onset of rheumatism in childhood; to the existence of many rheumatic equivalents—*e. g.*, tonsillitis, torticollis, pleurisy, recurrent vomiting, etc. In many cases anemia with endocarditis are the first manifestations. Irregular temperature in childhood is always suspicious and should lead to careful examination of the heart.

For the treatment of the acute attack, Winters advises strict milk diet, with, later on, the addition of cereals. The use of animal broths he considers useless and pernicious. The dietetic management is all-important in the treatment of rheumatic children.

[Attention is called to this article as an illustration of complete adherence to the "chemical" theory of the causation of rheumatism. The general trend of opinion today inclines to the belief that while faulty nutrition may be (and probably is) a predisposing factor, the actual exciting cause of rheumatism is probably bacterial; that rheumatism is, in other words, an infectious disease, and not a disease of metabolism, *per se*.—ED.]

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

A Cystic Epithelioma of the Hypophysis Without Hypertrophy of the Skeleton.—CESTAN and HALBERSTADT (*Revue Neurologique*, December 30, 1903).—In view of the importance of the presence of tumors in cases of acromegaly involving the hypophyseal region, the account of the finding of a tumor here with no symptoms is of interest. The case is that of a man sixty years old afflicted with a progressive mental malady accompanied by progressive loss of intelligence and attacks epileptiform in nature. At the autopsy a tumor arising from the *selle turciaca* and extending posteriorly to the optic chiasma was found. The tumor was cystic in character and arising as it did from glandular portion of the hypophysis its epitheliomatous nature was to be expected. This report is of value for the reason that it shows that something else beside a tumor in this region is necessary in order to cause the changes which are found in acromegaly.

A Case of Secondary Epilepsy.—FOURNIER (*La Revue Medicale du Canada*, January 6, 1904).—This case is of interest chiefly for the quotation from the famous Parisian syphilographer which closes the article. The case briefly is that of a young man of twenty-eight years who became the subject of true epileptic attacks for the first time at that age. Under an antispecific treatment the attacks have ceased, though time enough has not elapsed to regard this as a complete cure. Fournier's dictum is as follows and it should be widely known: When an adult over thirty years of age is attacked for the first time by an epileptic convulsion and if the state of general health is good, there are eight or nine chances out of ten that this epilepsy is of syphilitic origin.

Tumors of the Ponto-Medullo-Cerebellar Space—Acoustic Necromata (Central Neurofibromatosis).—FRAENKEL and HUNT (*Medical Record*, December 26, 1903).—A number of cases are described under the above title. These cases are of great interest because they point to a new type of brain tumors and because they seem to be favorably located for the possibility of surgical operation. These cases consist in the formation of tumors, single or multiple, on one or more cranial nerves. The acoustic nerve is the one most frequently affected, and next in order the trigeminus. The pathological occurrences on the cranial nerves are identical with those of generalized neurofibromatosis of the cerebro-spinal and sympathetic nerves. The condition is by no means a rare one. Five cases are here reported with autopsies. Three were cases of tumors of the acoustic, one a case of bilateral tumor of the acoustic, and one a case of tumor of the trigeminus. These tumors are probably all teratomata. The role played by trauma has been exaggerated by previous observers. The conclusions are as follows: The foregoing cases

show a common origin from cranial nerve trunks. Their pathological structure is of a kindred nature, neurofibromatosis, pure or in various stages of metamorphosis and transformation. The locality is almost identical—the angle formed by the pons medulla and the cerebellum. Their symptomatology, because of this location, is in the essential features analogous. The certainty of localization, the essentially benign nature of the growths, their loose attachment to the meninges and nerve trunks distinguish this group of intercranial tumors as a most favorable one for surgical interference. In view of all this, there is justification for the suggestion to assign a separate place to this syndrome in the group of intercranial tumors.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Note Upon the Bladders of Prostatitis Without Prostate.—MOTZ and ARRESE (*Ann. des Mal. des. Org. Urin.*, December 15, 1903).—From an examination and study of fifteen bladders of patients whose urinary symptoms were those of prostatic hypertrophy, but in which there was no hypertrophy, the authors found that the vessels were normal in eleven cases, the bladder muscle hypertrophied in twelve cases, considerable secondary sclerosis of the muscle in two cases, and a slight primitive muscular atrophy in one case. They, therefore, conclude that vesical atony of "prostatitis without prostate" is not caused by the bad state of the muscular tissue (contrary to Cienchanowski's conclusions).

The practical observation to be drawn from these deductions, as Albarran's experience shows, is that the extirpation of a gland which at least in appearance could form no obstacle to the emission of the urine, can re-establish the normal function of the bladder with individuals who have had complete retention.

Urethrotomy by the Combined Use of an Anterior and Posterior Sound Used as Guides.—PENN (*Jour. A. M. A.*, January 9, 1904).—The author mentions the difficulties encountered in some cases while attempting an external perineal urethrotomy "without a guide," and the dangers coincident upon a prolonged search for the urethra. He urges the expediency and simplicity of early retrograde catheterism, believing there is less danger and shock than from a difficult perineal operation. Having a distended bladder to puncture suprapubically, he bent the canula and trocar so as to give it the curve of a urethral sound, and tapped the bladder with it. Through the canula he easily passed a small silver sound into the urethra, thus doing retrograde catheterism readily. This procedure has served the author admirably in two cases. There is much less trauma and shock from a mere puncture than from the usual cutting operation for retro-catheterization, and the danger of infiltration is less.

Le Rein Extopique Croise.—CATHELIN (*Ann. des Mal. des Org. Urin.*, December 1, 1903).—Under the above name Cathelin designates that condition of misplaced kidney in which one kidney is placed below its fellow on the same side of the vertebral column, whether the lower kidney is a part of or entirely separated from the upper one. He collects fourteen cases from literature where the two organs are intimately interwoven, and five cases in which the kidneys were entirely separated, the one below the other, both on the same side of the vertebral column. However, this abnormal position of the kidneys does not interfere with the normal arrangement of the ureteral orifices in the bladder.

A Case of Complete Bilateral Duplication of the Ureters.—DECHERD (*Am. Jour. Med. Sciences*, January, 1904).—Both ureters on each side were complete from kidney to bladder. The upper ureters drained the upper third of each kidney and the lower ureters the lower two-thirds. All four ureters had separate pelvis and separate openings into the bladder, so that there were four ureteral orifices into the bladder, the lower being two and one-half cm. apart, and those on each side one cm. from its fellow.

The Treatment of Vesical Papilloma by Injections.—HERRING (*British Med. Jour.*, November 28, 1903).—The author has obtained good results from injecting the bladder in cases of vesical papilloma by irrigations of silver nitrate solution. Beginning with weak solutions the strength is gradually increased according to the tolerance of the patient. He says:

1. That recurrence of papilloma after removal by suprapubic cystotomy may be effectually held in check by injections of silver nitrate.

2. That if injections are made, when it has been found impossible to remove the growth entirely by operation, the recurrence of the symptoms is retarded longer than could be expected without the treatment.

3. That much of a tumor may be removed by the urethra without serious hemorrhage, and a result gained equal in some cases to that of a suprapubic operation.

4. That there is reason to hope that papillomatous growths may be entirely destroyed by long-continued applications of silver nitrate.

Ascending Renal Infection with Special Reference to the Reflux of Urine from the Bladder into the Ureters as an Etiological Factor in its Causation and Maintenance.—SAMPSON (*Johns Hop. Hosp. Bul.*, December, 1903).—This excellent study and report of experiments upon ascending renal infection and urinary reflux into the ureters is replete with interest. The subject is so broadly considered that an abstract could hardly cover the article. The author, however, gives the following conclusions:

1. The vesical portion of the ureter changes under the various degrees of dilatation and of intravesical tension of the bladder, and in each of these conditions one may find special provision for guarding the lumen of the ureter and thus preventing a reflux of urine from the bladder into the ureter. Under all conditions of the bladder the direction of the current of urine from the kidney to the bladder is a constant factor in the prevention of ascending infection. In addition there are present:

- a. In the distended bladder, the very oblique course of the ureter and

the long ureteral valve, the lateral walls or labia of the ureteral orifice, and the mucosa of the ureter.

b. In the contracted bladder the course of the ureter is less oblique, the ureteral valve is shorter and these factors apparently play a less important part in the protection of the ureter than they do in the distended bladder. On the other hand, additional protection is afforded by a puckering of the ureteral orifice; the ureteral labia may come together and the ureteral mucosa is thrown into folds.

2. The anatomical structure and physiological action of the ureters as well as clinical experience would indicate that the function of the ureters is not only to carry urine from the kidneys to the bladder but also to prevent fluid from passing into the ureters from the bladder, and that under normal conditions it is impossible for the latter to take place. Cases have been reported which contradict this statement. The fact that an occasional case has been reported in which apparently a reflux has occurred, especially when nothing is known of the condition of the ureteral orifice in these instances, cannot be regarded sufficient evidence for supposing that it may occur in all cases.

3. Organisms may be conveyed from the bladder to the kidney through the following channels:

1. The general circulation.

2. The vesico-utero-ovario-renal anastomosis. There is both a venous and an arterial communication between the renal and vesical vessels through the ovarian and uterine vessels.

3. The blood vessels of the ureter. The renal and vesical vessels may communicate with each other through the free anastomosis of the ureteral vessels.

4. The lymphatics. The communication between the lymphatics of the bladder and those of the kidney is indirect, either through the local glands of the bladder and kidney or through the lymph vessels of the ureter. (Sakata.)

5. The lumen of the ureter. This may be as follows:

a. By injuries of the intravesical portion of the ureter.

b. By the extension of an inflammatory process from the bladder through the ureteral walls or along the lumen of the ureter. This is probably the most frequent way.

c. By organisms traveling up the ureter, especially when the current of urine from the kidney to the bladder is interfered with by a stricture or something occluding the lumen of the ureter.

d. By a reflux of urine from the bladder into the ureters, which may be due to:

1. Intravesical pressure, forcing the urine into the ureter.

2. Reverse peristalsis on the part of the ureter carrying urine from the bladder into the kidneys.

3. By suction of air into the ureters, when patients are examined in the knee-breast posture, through an open cystoscope.

The reflux of urine from the bladder into the ureters may be considered an etiological factor in the causation and maintenance of renal infection only when the intravesical portion of the ureter is diseased, thus impairing its function, or when some ureteral abnormality exists.

Two accessory etiological factors of great importance in the causation of renal infection must be considered:

1. An injured kidney; that is, one which presents a lowered *local* resistance. The most frequent cause of this is probably a ureteral stricture due to cystitis or calculus.
2. General ill health of the patient; that is, lowered *general* resistance.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

A New Method of Rapid Extirpation of Nasopharyngeal Fibromata, With Report of Cases.—KING (*N. Y. Med. Jour. and Phila. Med. Journal*, December 19, 1903).—After discussing the different methods of treating nasopharyngeal fibromata, the writer describes a method which he claims inflicts less traumatism, is quicker and more effective than others. Under chloroform anesthesia a high tracheotomy is performed and a tube inserted. With the patient in Rose's position, the head supported by an assistant, and a mouth gag in place, the fingers of the left hand are introduced in the nasopharynx to ascertain carefully the outlines of the tumor and the position and extent of the base of implantation. This step in the operation is considered of great importance, for as soon as the size and point of origin of the pedicle are made out, the fingers are to serve as a guide for the operation of scissors, introduced through the nose on the side where the pedicle is more accessible. The scissors to be used for this purpose are a strong pair, with long handles and short blades, slightly curved on the flat. The long handles offer a strong leverage so that the toughest tissue can be cut through with them. The closed blades are introduced carefully along the septum until the point can be felt in the nasopharynx. The instrument guided by the fingers to the pedicle, with the convexity upwards, the pedicle is divided. As soon as the tumor is felt detached in the pharynx, it can be withdrawn through the mouth. The bleeding is usually profuse. The use of a gauze pack aided by the tendency to spontaneous arrest when the tumor is removed will check the bleeding in a short time. If the growth has been completely removed the tube can be removed and the wound closed. If the hemorrhage has been copious the patient should be allowed a few days' rest before being subjected to further operation. Too much time should not be lost before attacking the root of the tumor. Remaining fragments can be removed under light with a snare, cutting forceps or scissors, or destroyed by the use of the cautery. The histories of three cases are given in detail.

On the Use of Thigenol in Diseases of the Ear.—URBANTSCHITSCH (*Monatsschrift fuer Ohrenheilkunde*, Jahrg. xxxviii, No. 11).—Since August, 1903, the author has been experimenting with thigenol, a

synthetic sulphur compound containing 10 per cent. of sulphur, in acute and chronic inflammatory conditions of the ear. His results in many cases were very satisfactory and in others he obtained results which could not be obtained by other drugs. In acute middle-ear inflammations the instillation of a 20 per cent. solution of the drug in glycerine not only relieved the pain, but was of decided curative value, even when there was no perforation present. In the chronic middle-ear inflammations solutions of the drug in diluted alcohol or peroxide of hydrogen were employed. Especially good results were also obtained in acute and chronic eczematous conditions of the external auditory canal and auricle. Eighteen cases are reported in detail.

Shall We Operate on Deformed Septa in Cases of Atrophic Rhinitis?—

KATE BALDWIN (*Jour. A. M. A.*, January 9, 1904) answers this in the affirmative. The writer says to operate after a careful study of the cases and a few thorough cleansings. If the sinuses on the roomy side are involved, they should be operated upon first. Then as completely as possible correct the septal deviations, removing only the thickenings necessary to bring the septum to the median line. Later on the septum can be smoothed up according to individual demands. As the tissues have not the recuperative power of normal tissues, much care must be used in this operation, not only to remove as little tissue as possible to gain the desired correction, but to make no undue or unequal pressure, especially on the cartilages. Change the splint frequently, and continue its use the shortest time possible. The pin should never be used in an atrophic septum. A pin will often cause a perforation in twenty-four hours. All cut edges must be stimulated to secure an over, rather than under, inflammatory reaction. The excessive granulation can be easily removed. When these precautions are taken, operative interference will hasten the cure of atrophic cases.

The Efficacy of the Treatment of Acute Otitis Media by Aseptic Drainage.—GRADLE (*Jour. A. M. A.*, January 2, 1904).—The object of the author's paper is to show the superiority of the treatment of acute otitis media by aseptic drainage. The principles of the method are paracentesis as soon as the diagnosis is made, and continuous absorption of the discharge by an aseptic gauze drain in the meatus and a large dressing over the auricle. After sterilization of the meatus and auricle by means of carbolic solution, the sterility of the gauze is further assured by the liberal use of powdered boric acid in the dressing. The external gauze pad is changed as soon as moisture shows, while the tampon in the meatus may be left twenty-four to forty-eight hours at the time. The character of the discharge is taken as a criterion as to the efficiency of the treatment. In the milder cases, which either perforate spontaneously or are punctured within the first or second day, the discharge is always entirely serous, and neither stringy nor purulent. The writer believes the same rule holds good, no matter how severe, provided the drumhead is punctured early enough. The change from a serous to a purulent or mucopurulent secretion seems to depend mainly on insufficient removal of the fluid. In order to be successful, the treatment by aseptic drainage requires skillful supervision. When successfully car-

ried out it has yielded the writer the quickest results, and in no case did he ever see any complication as long as he succeeded in keeping the discharge serous.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

The Effect of Iodide of Potassium on the Eyes.—BOUZITAT (*Rev. d'Ophthalm.*, October, 1903).—A patient with bilateral stenosis of the lachrymal canals developed a corneal ulcer of the right eye which, despite treatment, terminated in necrosis of the corneal tissue and prolapse of the iris. Later the left eye was attacked by a similar process which progressed until vision was reduced to light perception. Enucleation of the fellow failed to check the disease. It was then discovered that the patient had been taking, during the preceding three months, four grams daily of potassium iodide for a nasal affection. On cessation of the drug the ulcer healed promptly.

Potassium iodide increases the activity of the conjunctival glands and thus causes conjunctivitis. In the present case the secretion was rendered virulent by admixture with the septic material from the lachrymal sac.

Hallucinations of Vision.—H. F. HANSELL (*Am. Med.*, January 16, 1904).—In this paper Hansell considers "the erroneous mental conception derived from diseases of the interior of the eye by which the retinal or nervous stimulus is perverted." These hallucinations arise from: (1) Errors of refraction—*e. g.*, the astigmatic individual sees an object distorted, etc. (2) Paralysis of an ocular muscle. Two images are seen, "neither of them correct, because the mental conception must be formed without the association of the binocular co-ordination and the physiologic double retinal image." (3) Opacities of the media give rise to a mental impression of cloudiness, fog and smoke. (4) Diseases of the retina, choroid and optic nerve. The pressure of inflammatory material and blood irritates the rods and cones of the retina, thus accentuating the normal activity of the tissues, giving rise to flashes of light, etc.

A Case of Congenital Aniridia with Dislocation of Both Lenses.—MOISSONIER (*La Clin. Ophthalm.*, December 25, 1903).—The patient was an undersized adult male, with divergent squint and lateral nystagmus. Both irides were entirely absent. In the right eye the lens was dislocated upward and backward, and the same condition obtained in the left eye, though in slighter degree. Both lenses were the seat of fine scattered opacities. The retina was normal, the disks rather pale.

The Corneal Lesions of Acquired Syphilis.—SYDNEY STEPHENSON (*Brit. Med. Jour.*, September 26, 1903).—Acquired syphilis affects the cornea primarily in two different ways:

(1) An interstitial diffuse or parenchymatous keratitis.

(2) A true keratitis punctata.

The first type is usually unilateral, the opacities occurring in patches. The second consists of groups of greyish spots (localized gummatous infiltrations) occurring in the substance of the cornea. Both types promptly respond to specific treatment and the outcome is favorable. The phenomenon is a tertiary one and includes from two to ten per cent. of all cases of interstitial keratitis.

A Hitherto Undescribed Membrane of the Eye and Its Significance.—F. H. VERHOEFF (*Boston Med. and Surg. Jour.*, October 22, 1903).—Verhoeff has observed that the external limiting membrane of the retina is continued at the disk margin and passes into the layer of pigment epithelium. His conclusions are as follows: "In the pigment layer of the retina there is a fenestrated membrane, identical in structure and staining reactions with the limiting external layer of the retina."

"The rods and cones are not nervous elements, but modified ependymal cells, and are analogous to sensory epithelium."

"The limiting membrane of the rosettes of glioma retinae is a fenestrated membrane similar in every way to the membrana limitans externa, and the rosettes correspond to the neuro-epithelium of the normal retina."

"The structure of the limiting membrane of rosettes explains why they assume their characteristic spherical and spiral-like form."

"'Neuro-epithelioma retinae' is no more suitable than 'glioma retinae' for the class of tumors to which these terms have been applied."

The Ocular Complications of Mumps.—J. H. WOODWARD (*N. Y. and Pa. Med. Jour.*, January 2, 1904).—The writer reviews the recent paper of Antonelli and Le Roux (*Arch. d'Ophthalm.*, October, 1903) who report very various ocular complications in this disease including conjunctivitis, abscess of the lid, keratitis, dacrioadenitis, iritis, hyperemia of the disks, optic neuritis and neuro-retinitis.

The following case observed by Woodward presents some unique features.

The patient was a little girl eleven years old. Tumefaction in the parotid regions persisted after convalescence. On attempting to use the eyes in school there occurred vertigo and momentary failure of vision in the left eye, accompanied by suffusion of the conjunctiva and lachrymation. Five weeks later the left pupil became suddenly and permanently dilated while reading fine print by artificial light.

Examination showed a hazy cornea, dilated pupil, T. . . . Ophthalmoscopically, blotches in the fundus resembling hemorrhages and a whitish reflex below. V. p. l. The upper field was blind. Anterior sclerotomy was performed, following which the cornea cleared somewhat and an occasional retinal vessel could be seen. Woodward first saw the case about a week later. The pupil was then dilated and immovable, the disk intensely edematous, the veins dilated and tortuous, some of the arteries normal, others quite empty. Two months later the pupil reacted to the brightest illumination, the vitreous contained floating particles and the arteries and veins were entirely obliterated. At the macula was a large white streaked patch and about the disk whitish spots were scattered. Thirteen months later conditions had not changed.

BOOK REVIEWS.

AMERICAN TEXT-BOOK OF SURGERY. For Practitioners and Students. Edited by WILLIAM W. KEEN, M. D., LL. D., F. R. C. S. (Hon.), Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; and J. WILLIAM WHITE, M. D., John Rhea Barton, Professor of Surgery, University of Pennsylvania, Philadelphia. Fourth edition, thoroughly revised and greatly enlarged. *Handsome octavo of 1363 pages, with 551 text-illustrations and 39 full-page plates, many in colors. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Cloth, \$7.00 net; sheep or half morocco, \$8.00 net.

The fact that this large volume represents the fourth edition of the work is, perhaps, the best testimonial of its popularity. Since the appearance of the third edition the book has undergone a thorough revision; and in addition a number of new chapters have been added in the effort to keep up with the advances in surgery. Such new work as that of Crile on blood pressure, Matas on aneurisms and Edebohls on the surgery of what were formerly considered strictly medical affections of the kidney, have necessitated additional chapters. New chapters have been added on such subjects as naval surgery, tropical diseases and the surgical affections of the pancreas. Thus is seen the effect on surgery and surgical writing of the expansion policy of the government. As regards the surgery of the pancreas, much of it has actually been made in the very recent past, hence the book which has it all must be considered as being strictly up to date.

Many of the illustrations are so fine as to excite more than a passing notice; especial reference is made to the full-page plates, which are, many of them, really works of art.

The division of the work into four heads is something quite out of the ordinary and would seem to the reviewer to be a most sensible idea; the heads are named: general surgery, special surgery, regional surgery and operative surgery.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. STEVENS, A. M., M. D., Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal Hospital and to St. Agnes' Hospital; Fellow of the College of Physicians of Philadelphia, etc. Sixth edition, thoroughly revised, enlarged and reset. Post-octavo of 556 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Flexible leather, \$2.25 net.

This little volume, of a convenient size and well printed, will doubtless be of use to such as wish an extremely condensed compend of internal

medicine. Just to whom it will appeal seems, however, not quite clear. Physicians one would suppose must need something on a larger scale, and the utility to students of clinical medicine in tablet form is, to say the least, doubtful.

LESIONS OF THE EYE. For the Use of Undergraduate Students. By FRANK L. HENDERSON, M. D. Third edition. Philadelphia: P. Blakiston's Sons & Company, 1012 Walnut street. 1903.

Dr. Henderson's little manual, which now appears in a third edition, is an excellent epitome of those ophthalmic topics which should first be presented to the consideration of the undergraduate student. The author contends that the amount of time allotted to ophthalmology in the majority of our medical schools does not warrant the inclusion, in a first course, of such topics as minute anatomy, the fitting of glasses, skiascopy and ophthalmoscopy, all of which have been intentionally omitted. The assumption is, perhaps, fair enough with regard to all but the last subject—ophthalmoscopy. Dr. Henderson may well "doubt the diagnostic value of an ophthalmoscope in the hands of the average practitioner" (preface), but why should he seek to condemn the future practitioner to an equal disability? The day is not far distant when the internist will demand, as an indispensable part of his diagnostic equipment, at least so much knowledge of the ophthalmoscope and ophthalmoscopy as will enable him to recognize gross lesions of the fundus—*e. g.*, retino-choroidal atrophy, retinal hemorrhages, the blanched disk of optic atrophy, etc. We are building for the future in the training of medical undergraduates of to-day and Dr. Henderson's contention may fairly be regarded as unprogressive.

ATLAS OF THE EXTERNAL DISEASES OF THE EYE. By PROF. DR. O. HAAB, of Zurich. Second edition, thoroughly revised. Edited, with additions, by G. E. DE SCHWEINITZ, A. M., M. D., Professor of Ophthalmology in the University of Pennsylvania. With 98 colored lithographic illustrations on 48 plates, and 232 pages of text. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Price, \$3.00 net.

The excellent and deservedly popular atlas of Prof. Haab now appears in a second American edition which has been thoroughly revised and brought up to date. The first sixty-one pages are devoted to a consideration of the "Examination of the Eye in Disease," the various methods of examination (excluding ophthalmoscopy, which is fully discussed in the author's "Atlas of Ophthalmoscopy and Ophthalmoscopic Diagnosis") being fully described. The rest of the work is concerned with the description of the appearances of many of the diseases of the eye that can be diagnosticated by external examination alone. The text is illustrated by ninety-eight beautifully executed chromo-lithographs—the originals being painted in most instances direct from nature by J. Fink of Munich. It is marvelous with what fidelity the tints that characterize the eye in disease have been reproduced. It is not too much to say that a careful study of these pictures will enable a physician wholly

without clinical experience to venture on a diagnosis of any of the conditions depicted.

The translator is to be commended for producing a faithful transcript of the original and at the same time avoiding the German idiom. The judicious critical comments of Prof. de Schweinitz add much to the value of the text.

NERVOSE ZUSTANDE UND IHRE PSYCHISCHE BEHANDLUNG. By DR. O. ROSENBACH. Fischer's Medicin. Buchhandlung. H. Kornfeld, Berlin. C. Stechert, New York.

This book consists of the collection of papers on the psychical treatment of various forms of neuroses written at various times by the author. They are here collected in order to stand the test of whatever criticism they may merit. They thus form a very interesting series of papers on the more common neuroses from the point of view of one with an uncommonly broad grasp of his subject. The most valuable feature of the book is the discussion of the means of differentiating the purely functional symptoms from the organic symptoms of disease. As in most books of this nature, the therapeutic part is of less value for the reason that psychical therapy is, after all, a personal matter or at any rate largely so, and the means that enable one to succeed in a given case will not be of much service in the hands of another. This book can be justly recommended to all those who desire to know something of the conception and the manner of treating diseases of the nervous system of a functional nature.

PRINCIPLES AND PRACTICE OF SURGERY. Designed for Students and Practitioners. By GEORGE TULLY VAUGHAN, M. D. Philadelphia and London: J. B. Lippincott Company. 1903.

This neat book of 569 pages contains all the essential parts of general surgery, given, it is true, in a terse manner, but nevertheless at sufficient length for the edification of the average student. The avowed idea of the author, himself a teacher, has been to furnish a work that will aid the student in preparing himself for examination without burdening him with a mass of technical details, useful only to the practicing surgeon. The price of the book is but \$3.50, another recommendation as far as the student body is concerned.

There are furnished 281 illustrations of fair quality, many of them being taken from other sources however. The subject-matter is divided into two sections, the first dealing with general surgery, the second with the surgery of the regions, so-called. The key-note to the entire work is "be practical," it being apparently the author's idea to get at the meat of each proposition and avoid long discussions.

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ORIGINAL ARTICLES.

ANATOMICAL AND CLINICAL STUDY OF TWO HUNDRED POST-MORTEM SPECIMENS OF PROSTATIC HYPER- TROPHY—(PRELIMINARY REPORT).

BY WILEY BROOME, M. D., of St. Louis, Mo.

The surgical evolution through which we are passing in regard to the prostate is, it would appear, about completed, if judgment is to be based wholly upon opinions expressed by recently published views on the subject, for we are led to think that prostatectomy for the cure of urinary obstruction only needs a little modification in its minor details and technique to establish the procedure as the operation of the future for these cases. Indeed, Dr. Moore, of Minneapolis, only recently stated that it was destined to be one of the greatest boons modern surgery had to offer suffering mankind.

The consensus of opinion among recent writers covering the present status of urinary obstruction is fairly expressed by Ferguson in the following conclusion:

"The present status of the indication for an operation is that unless the urinary flow is interfered with and is not overcome by massage of the prostate and treatment of the deep urethra, then some one of the radical operations ought to be done. The present status of the incision, I think, resolves itself into the median incision as the proper one. The Y-shaped incision is being discarded. The median incision does not tear the folds of the perineum or injure the perineal artery and there is not as much hemorrhage. It is the incision of the expert. The present status of the removal of the whole prostate is that we can remove the whole prostate through the perineum with less risk than we can suprapubically. In the vast majority of cases you can enucleate the prostate with the finger. When the bladder has been attacked by repeated inflammations it must be removed piecemeal. The present status of dealing with the prostatic urethra is that we can remove the posterior prostatic urethra, and some have reported removing the entire prostatic urethra, without stricture. The present status of the perineal operation is that there are today about 200 cases reported with less than 5 per cent. mortality."

The trend of the surgery of the day is towards this conclusion, and we may safely assure ourselves that we are now well within the era of routine prostatectomy for the treatment of quite all of the forms of urinary obstruction, just as we were a few years ago in the era of prostatotomy, suprapubic prostatectomy, and later castration and vasectomy and now perineal prostatectomy. The authors of those days were just as enthusiastic over the good results from suprapubic prostatectomy, and one would have but little trouble in finding in the pages of the medical journals of those days expressions similar to those of Dr. Moore upon the prompt and happy effects of castration and that the procedure then was proving one of the "greatest boons surgery had to offer suffering mankind." Many of the most distinguished surgeons of America have recently published contributions covering results of their clinical observation and practical experience in perineal prostatectomy; and it is only necessary to mention the names of Senn, Guiteras, Syms, Ochsner, Parke, Young, Bryson, Ferguson, Murphy, Deaver and other equally well-known American authors, to show with what authority the era of routine prostatectomy has been established in this country as the adopted plan of treating this disease. There is no difference of opinion in this regard shown by these contributors and no marked difference in the enthusiasm manifested, whether it be considered premature or otherwise, all agreeing as to the status of the indications for a total perineal prostatectomy. In corroboration of this statement I may add the conclusions reached by Murphy to those cited above as coming from Ferguson:

"It appears evident that in the hands of safe, far-seeing, informed practitioners few cases will now be allowed to progress to an extreme condition before radical means are resorted to for permanent relief. The practice of today should be timely practice. The continued use of the catheter is a menace to life, not to mention the discomfort. No matter how favorable the conditions for its performance, the patients always suffer sooner or later from cystitis and its sequelæ.

"Prostatectomy gives a better result and is fraught with very little more danger than prostatotomy. Suprapubic prostatectomy should be limited to exceptional cases of enormous intravesical enlargement of the prostate. It appears to us to endanger the sphincteric control more than the perineal operation. It is more sanguinary and the work is more difficult and distant from the operator. The perineal operation is a more direct and less bloody route. It gives greater security against injury to the bladder wall and less liability to disturbance of the internal sphincter.

"The prostate is drawn out easily with sharp-hook retractors and best separated from the bladder from behind forward—*i. e., through a small incision. It should always be an intercapsular enucleation en masse, allowing the anterior isthmus to remain.*"

The indications for perineal prostatectomy as given by this author are:

“*First*—Prostatic enlargement to a pathologic degree—*i. e.*, sufficient to prevent urination, or cause much pressure.

Second—Painful and frequent urination.

Third—Cure for catheteral life.

Fourth—Cure for secondary cystitis.

Fifth—For the relief of pressure on the rectum.

Sixth—It ought to be the operation of election, if the patient is in condition to stand the operation and local conditions are favorable. The operation should not be considered nor used as a last resort.”

In his enthusiasm over the possibilities of perineal prostatectomy, this author is led to brush aside the pioneer work of Sir Henry Thompson with the following brief reference:

“Even so modern a man as Sir Henry Thompson said that he did not believe it was possible to operate on a case of enlarged prostate and have a result that would permit the patient to discontinue his use of the catheter and still be able to empty his bladder and retain his urine. Now, we know that these results are of daily occurrence.”

I think it may be found that quite sixty years have elapsed since Sir Henry Thompson pronounced the dictum that “a confirmed atony of the bladder consequent upon prostatic enlargement is incurable even by the removal of the prostate gland,” and I shall later on show you proofs amply sufficient to verify the correctness of Sir Henry’s views in this regard. Thompson advocated drainage in these cases and was contented with this safer and more simple means of relief, and I believe that when the profession of the present time can see the real conditions in urinary obstruction in the same light as did Sir Henry, it will realize that his views were not far from being the correct ones and that there is still a boon left to suffering mankind without the aid of a desperate surgical possibility.

It is a fact that I must emphasize at this point that all those who are advocating prostatectomy agree that the hypertrophied prostate is about the sole cause for all the patient’s trouble, that there is a general concord among writers that in all the cases of hypertrophy of the prostate with symptoms of difficult micturition, the hypertrophy is the cause of either the painful, frequent or difficult micturition. All agree that if the patient’s general condition will admit of it, a perineal prostatectomy offers the best and safest means of relief. All agree that perineal prostatectomy is the proper method of procedure for the cure of these cases and it is always indicated in cases with *marked symptoms of urinary obstruction*. All agree that in skilled hands familiar with the *improved technique*, the prostate may be enucleated easily and in a few minutes’ time.

A notable exception to this unanimity of opinion may, however, be inferred from the writings of Dr. Senn. This author, while admitting the perineal route has been given an extended trial and a very large ex-

perience appears to have decided in its favor, at the same time, with characteristic discriminating judgment and deliberation, sounds a warning to the more enthusiastic advocates of the routine operation of perineal prostatectomy in no uncertain tones, for he says:

"In regard to the indications for prostatectomy, history will repeat itself. Every new surgical procedure has had its enthusiastic advocates who championed extreme views and who would recognize no exceptions and who followed the routine practice. I will refer only to a few operations of recent date that have had such a history. It is not long since thousands of ovaries were sacrificed under the belief that the anticipated climacteric period would correct all kinds of obscure nervous affections until sad experience proved the contrary. It is impossible to estimate the number of healthy appendices that have been removed by surgeons who rely on pain in the right iliac region as conclusive evidence of a diseased vermiform appendix and resort to the knife as the only remedy. Castration for enlarged prostate has unsexed hundreds of men without yielding them an equivalent of the loss sustained. In gall-bladder there are now but few extremists who believe that it should be dealt with in the same radical manner as the appendix when it is said to be diseased. Instances could be multiplied, but the early history of the operations mentioned will suffice to show that new operations are very likely to be abused when first placed on trial, and prostatectomy cannot escape the same fate.

"It is impossible at the present time, so early in the history of this operation, to formulate the exact indications. *The size of the prostate is no criterion to go by in deciding on the propriety or necessity for an operation, as a large prostate may cause less disturbance of the functions of the bladder than one moderately enlarged.* (Italics mine.) Systematic aseptic catheterization will not be displaced entirely by prostatectomy and will continue to be a most valuable resource in the future as it has been in the past."

In referring to the trend of the surgery of the prostate as it is seen by the readers of the medical journals of the present day, a fair idea of the scope of the work embraced in what may be termed the *furor operativus* in regard to the prostate, I shall quote the only question relating to any phase of the subject outside of the operative field as it is asked and answered in a little book recently published, the title of which is "Prostatic Hypertrophy from Every Surgical Standpoint." This quotation is made for the further purpose of showing the diversity of opinion and confusion worse confounded on one single point which exists in the minds of those who are advocating prostatectomy. Of the fourteen questions asked, in the book just referred to, the one to which I refer is formulated as follows:

"Question No. 3. *In brief, (italics mine) what is the etiology of prostatic hypertrophy?*"

Wyeth, of New York, states that "it is due to prolonged irritation of the bladder from any cause together with irritation of the vascular system which is produced by a chronic uric acid and oxalic acid diathesis and excessive use of the prostatic muscle."

Senn says, "antecedent urethral disease, venereal excess and anything causing pelvic congestion."

Lewis, of St. Louis, "subacute chronic congestion or inflammation."

Murphy, of Chicago, "I am unable to determine from my experience any etiologic factor in the production of prostatic hypertrophy. I believe those given in the text-books are erroneous and the result rather of the imagination than a close observance of facts."

Horwitz, of Philadelphia, "not ascertained."

McGowan, of California, "all prostates that I have removed upon examination presented microscopical evidence of inflammation, but whether the inflammation has been the cause of the hypertrophy or an accident arising out of the strains and injuries to the distended and dilated blood vessels by fecal accumulations, catheter or sexual excitement it is impossible to say."

Chassaignac, of New Orleans, "I am an agnostic on this point."

Morton, of Brooklyn, no answer.

Howard Lilienthal, of New York, "fibroma and fibromyoma within the capsule."

Ferguson, of Chicago, "infection engrafted on hyperemia or traumatism. In all my cases the tissues were inflammatory in character."

Fuller, of New York, "I don't know further than that certain races seem to be exempt, for instance, the Japanese and Chinese. I have seen but one case in a full-blooded negro."

Eastman, of Indianapolis, "in the course of microscopical studies of the prostate prosecuted for the purpose of determining the origin of 'corpora amylacea' I have repeatedly noticed in glands only very slightly hypertrophied tissue changes of inflammation as described by Green and Cienchanowski. I am of the opinion that inflammation bears an important relation to prostatic hypertrophy."

Christian, of Philadelphia, "I am inclined at present to believe that the overgrowth of normal glandular muscular elements of the prostate gland constituting the hypertrophy is, first of all, congestive, and secondarily, inflammatory in character."

Morris, of New York, "presumably a simple degenerative change similar to that which occurs in the uterus."

Ricketts, of Cincinnati, "don't know."

Valentine, of New York, "I have not formed an opinion on this question"

Andrews, of Chicago, "it is only conjectural. It seems to me that vigorous men are the most frequent victims, but I have no scientific proof that sexual excess is the cause."

Spencer, of London, "*nil*."

Greene, of New York, "it is the result of chronic inflammation causing the formation of connective tissue which blocks up the mouths of the acini, causing them to dilate, pseudo adenoma; or the increase in the connective tissue takes place between the acini, causing atrophy of the prostate by compressing them or, if considerable in quantity, causing fibrous prostate. It generally commences as a posterior chronic urethritis from whatever cause."

Wishard, of Indianapolis, "I don't know."

Halstead, of Chicago, "I can formulate no rule regarding the etiology. In a few comparatively young men in whom I have seen hypertrophy I have reason to believe that chronic prostatitis was of etiologic moment. I do not believe that venereal excess nor venereal diseases as a rule have much influence in producing this condition. The etiology I consider is that of new growths, the cause of which is yet unknown."

McGuire, of Richmond, "I have no theory or explanation of the etiology of the disease."

Dandridge, of Cincinnati, "*Quien sabe?*"

Ochsner, of Chicago, "age, recurrent infections, constipation, habitual neglect of the function of the bladder, habitual sexual excess seem the most usual points in the history."

McDonald, of California, "alcohol, gonorrheal cystitis and inflammation of the prostate in middle life, the prostate never having properly recovered; or any condition which causes congestion of the vesical prostatic plexus of the fundus, as excessive masturbation, toying with females without proper emission and liver conditions which cause the hemorrhoidal veins to become varicose."

Glenn, of Nashville, "it is unknown to me, but I believe masturbation in youth and excessive sexual indulgence in later life to be the chief causes."

Dowd, of Buffalo, "the first seed of prostatic hypertrophy is sown in youth, developing insidiously until a true pathologic condition is reached."

Mayo, of Rochester, no answer.

Otis, of New York, "I don't know."

Martin, of Philadelphia, "probably chronic tubercular prostatitis, but I don't know."

Hays, of Milwaukee, "I don't know."

Guiteras, of New York. "I don't know."

Vecchi, of San Francisco, "all my cases were connected with previous inflammation of the urethra and bladder due to some infectious disease and to abuse of coition."

Park, of Buffalo, no answer.

Beck, of New York, "this is too hard a question for a busy practitioner. It is probably a general tendency to sclerosis, due to sedentary habits."

Geiger, of St. Joseph, "gonorrhea and sexual excesses."

Smith, of Portland, no answer.

Mark, of Kansas City, "my studies in this field have led me to the belief that prostatic hypertrophy is the result of a chronic inflammatory process producing new connective tissue formation. The etiologic agent is usually the gonococcus."

Jones, of Portland, Oregon, "any condition favoring chronic congestion"

Phillips, of St. Louis, "undecided."

As stated above, I have referred to the question for the purpose of showing that the profession is absolutely devoid of any consensus of opinion on the etiology of prostatic hypertrophy. I must also mention the fact that in this book, "Prostatic Hypertrophy from Every Surgical Standpoint," there is no question for the profession relating to the pathology of urinary obstruction, and *no inference can be drawn from its contents that urinary obstruction is ever due to any other cause than enlargement of the prostate*. In other words, a book presuming to cover every standpoint of urinary obstruction, makes reference only or in detail to the technique of prostatectomy save in the one single question, the answers to which I have given above. This book, however, displays a marked harmony with the scope of the work recently done in regard to urinary obstruction. I must add, however, in closing my reference to the book, that my intention is wholly foreign to any unjust criticism of this author; for, while it is true that he failed to formulate any questions relating to the various causes of urinary obstruction, or questions relating to the proper surgery in the different forms, those propounded cover the entire field from every standpoint from which the subject is now discussed, and it is, for this reason that the author took up all the points for review that are included in the recent contributions to the subject, that I have referred to the book at all. The following paragraph is taken from the author's preface to his book on "Prostatic Hypertrophy From Every Surgical Standpoint," and outlines, it is presumed, the main object he had in view in writing the book, as well as to bring to notice more clearly the work that had been done for the cure of urinary obstruction. The author states:

"It would appear from the number and character of authorities interested in this matter that a publication of greatly increased proportions would be necessary. The aim of the author in this instance is merely to bring to the notice of the practicing physician the *advance made in recent years in this line of work*, and to enable him with minimum effort to talk intelligently with his prostatic sufferers. . . . The object of this, then, aside from that which has just been given, is to enable the physician in charge of such cases to select a surgeon and to prepare such patients in advance to receive the services of a *specialist*."

I shall go no further into the anatomy of the genito-urinary organs just at this time than is necessary to serve the practical purposes of this

report. We must, however, have a pretty clear conception of the relative anatomical positions of the prostatic urethra, vesical orifice of the urethra, anterior wall of the bladder and that portion of the floor of the bladder anterior to the plica ureterica in the normal as well as the pathologic conditions which result from urinary obstruction. In order to see more clearly the various conditions which we must encounter when undertaking the rational treatment of urinary obstruction, we must consider at length these parts and the tissues which go to form them. For our present purpose it is unnecessary to describe even briefly the source of the blood supply or the distribution of nerves, lymphatics or peritoneum, but a review of the anatomy of the arrangement of the muscle

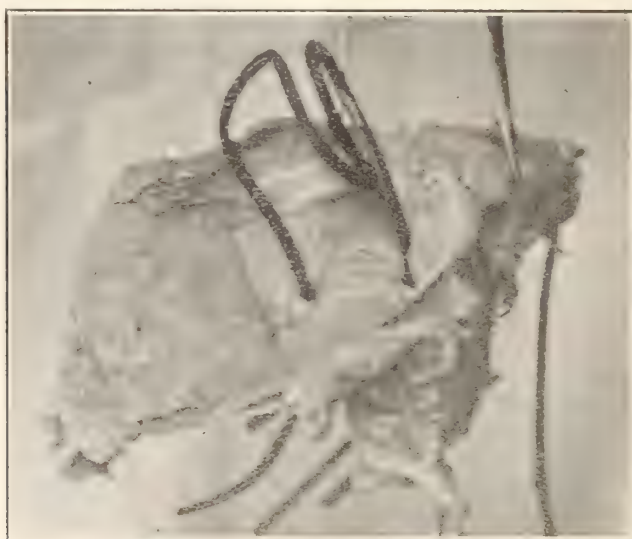


FIG. 1.—Interior of normal bladder, showing relative position of the ureters, floor of the bladder and urethra. The ends of two soft catheters are placed in the urethra, the other ends introduced into the ureters. It may be seen that the ureteral openings are on a line with the urethra.

tissue and mucous membrane will, I am sure, help us greatly in a practical way.

Gross Anatomy.—In viewing as a whole the parts which are chiefly concerned, an important point to bear in mind with reference to their normal appearance in their anatomic relations, is that in the normal bladder the outlet into the urethra is always on a level with the most dependent part of the floor of the bladder, and when the walls of the bladder are in perfect health every drop of urine can be expelled from the bladder provided, of course, that the urine can find its exit through the urethra. Then again it must be remembered that the prostate gland is made up of two lobes only, that there never is a third lobe present in the

normal state. The two lobes are endowed with separate capsules except in the lateral walls of the urethra, which passes directly between the lobes and furnishes the commissure and helps to establish the individual identity of the lobes. These lobes in this condition may be enucleated, one or both, from the capsule, but not, however, from the commissure, without disturbing the integrity of the urethra. The so-called third lobe is never present in the normal prostate, a fact which I have already mentioned, but in the passage of the two ejaculatory ducts from the vasa and seminal glands through the base of the prostate to the vera montanum in the urethra, a division of the lobes is fairly well established. This segment of the prostate provides the floor of the vesical orifice of the urethra, being closely associated with that portion of the bladder wall and I have named this wedge-shaped part of the gland the *interfissural segment of the prostate*.

Another fact that we must observe and emphasize in passing is that neither lobe of the prostate can be removed *in toto* by any method we have without entirely obliterating all communication between the lobe removed and the testicle of the same side.

Now, in again looking into the normal bladder we see aside from the easy access of the flow of the urine into the urethra that the two ureters open a little distance from one another on to a ridge of mucous membrane extending across and forming the base of the trigone of the bladder. This ridge of mucous membrane is recognized under the name of *plica ureterica*. Reaching directly forward from the center of this ridge there is the trace or semblance of a tongue formed by a smaller slight elevation of the mucosa and extending quite to the vesical opening of the urethra, a tongue of the mucosa which is termed the *uvula of Lieutaud*. It is largely these parts we must bear in mind with which we have to contend in many of the forms of urinary obstruction and which play such an important part in the mechanism of urinary obstruction.

By referring to illustration No. 1, we may see the relative anatomic position of the vesicle orifice of the urethra, floor of the bladder and opening of the ureters. This picture shows more clearly than may be described the accessibility of the vesical orifice of the urethra to the floor of the bladder.

The base of the bladder is a very important part of the organ. In the male it is triangle-shaped, bounded at the sides by lateral surfaces, in the front by the base of the prostate and behind by the cul-de-sac formed by the retrovesical folds of the peritoneum. Behind the prostate are the *vesiculæ seminales* and *vasa deferentia*. The base is directed backwards and downwards and rests upon the second portion of the rectum. The inner surface of the bladder presents in its floor the floor of the vesical urethra, the trigone, the *trigonum vesicæ*, or triangle Lieutaudi and the *uvula of Lieutaud*, different terms which have been used to describe these parts. The entire thickness of the bladder

wall underneath, including the submucosa and muscle tissue of this area, differs from every other part of the bladder in that these tissues are firmly bound together and not susceptible of any gliding motion between them; and the significant feature about this is that when either the hyperplastic process or obstructive hypertrophy are being inaugurated, these become even more firmly solidified, and the mucosa in this area loses its epithelium. It is to be noted as a matter of importance that there is never a diverticulum formed at this point for the reason



FIG. 2.—Illustration showing interior of bladder and kidney. Pathological conditions resulting from chronic urethral stricture. Clinical symptoms same as those which are present in prostatic hypertrophy, but prostate destroyed by pressure atrophy.

that the arrangement of these tissues will not yield as in other parts of the wall of the bladder.

Prostatic Urethra.—In regard to the prostatic urethra there are certain anatomical points that I wish to especially emphasize in this preliminary report. One point of great importance is a fact which I find at variance with the teachings of text-books on anatomy. The sinus pocularis in the prostatic urethra, for example, is represented by anatomists generally to be the homologue of the uterus and that it terminates by a blind dilated extremity. The truth is, whether it was intended as the

homologue of the uterus or not, it is not a blind sac but instead is in direct communication with both ejaculatory ducts and receives the semen from the seminal glands in the act of emission. Furthermore, I quite conclude that it is a very useful organ. The cavity of the vera, it would appear, is fairly capable of receiving the full charge of an emission from the ejaculatory ducts and at the same time is able and does contribute, I am forced to believe, great force to its expulsion through the urethra. The walls of the vera montanum, in other words, are rich in muscle tissue and the arrangement of these muscle fibres enables this little organ to contribute much power in the quick and forcible expulsion of the



FIG. 3. — Pathologic specimen illustrating ultimate effects of chronic urethral stricture.

semen immediately after being expressed into it by the muscles of the prostate.

In regard to the sinus pocularis as a blind sack, I may explain that those views have been entertained possibly in consequence of the fact that it is difficult, owing to a wise provision in the floor of this cavity, to pass a probe from above downward into the ejaculatory ducts, but if the attempt is reversed, the probe readily passes from the vasa deferentia directly up through the ejaculatory ducts and into the cavity of the sinus pocularis. The slit-like openings upon either side of the vera when present (but are often absent), which are looked upon as the real terminations of the ejaculatory ducts, have actually no direct communication with these ducts, although separated in places only by very

thin layers of prostatic tissue; and in consequence of the ease with which the probe may be guided through these weakly protected spaces, and, on the other hand, the difficulty encountered in the attempt to pass a probe through the floor of the sinus into the ducts, owing to a valve-like arrangement there, no doubt led anatomists to believe the sinus pocularis to be a blind sac and the openings on the sides of the vera to be the terminations of the two ejaculatory ducts, but indeed the actual anatomic relations are found to be just the reverse. The mucous membrane of the sinus pocularis is, it must be borne in mind, continuous with both ducts, both seminal vesicles and with the vasa deferentia, as well as with the entire urethra, cavity of the bladder and ureters. It is certainly, in the light of careful anatomic and physio-



FIG. 4.—Under surface of prostate and bladder, showing anatomical relations of the vasa and seminal glands as they enter the base of the prostate to reach the ejaculatory ducts. Section of peritoneum illustrating the depth to which it is reflected downwards is left *in situ*.

logical study of the vera montanum, only a mere fanciful vision of the imagination to look upon the sinus pocularis as the homologue of the uterus.

The student of anatomy has always found it difficult to fix in his mind the text-book description of the anatomy of the prostatic portion of the urethra. This confusion is due largely to the fact that names have been given to the different parts because (in most instances) of their fancied

resemblance to other objects. For example: *Caput Gallinaginus*, *Caput Galli*, *Caput Gallinaceum*, *Crete Urethrale* *Hahnenkopf*, *Schnepfenkopf*, *Samenhuegel*, *Christa Urethra*, *Colliculus Seminalis* and *Veru Montanum*—names which have all been given by the text-books to the bundles of muscular fibers which reach from one end of the prostate to the other upon the floor of this portion of the urethra. The muscular fibers of which this prominence is chiefly formed extend or have their origin in the walls of the bladder, and are therefore capable of exercising special part in the functions of the genito-urinary mechanism. Upon the summit of this muscular eminence may be seen a somewhat puckered opening, which leads to the *sinus pocularis*. The mucous membrane appears to be arranged in folds as it dips into the sinus, and

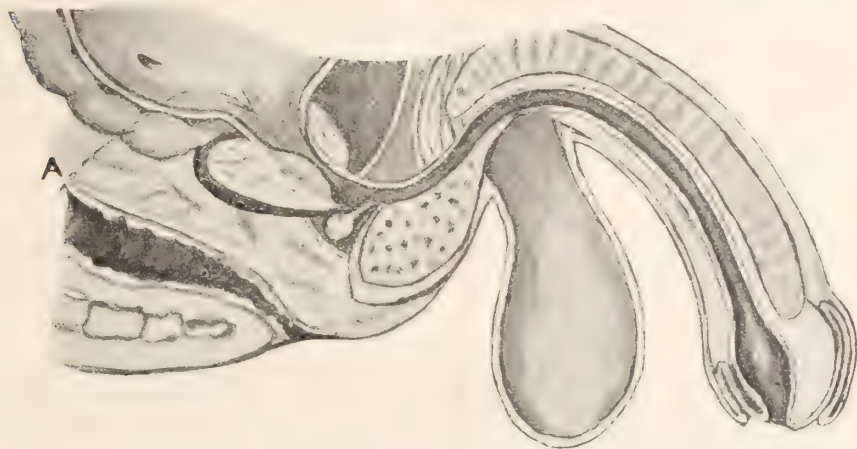


FIG. 5.—Illustration showing normal relations of urethra to prostate and vesical orifice of urethra to floor of bladder.

(fancifully) the opening resembles the mouth of the uterus, and hence is supposed to be the homologue of the uterus and has, in consequence, received the following names: *Utricle*, *Uterus of the Prostatic Urethra*, *Uterus Masculinus*, *Sinus Pocularis*, etc., no office ever having been assigned to this uterus. Even to one who is willing to contemplate this male uterus in the light of a mere vagary, it is strange that it never occurred to him that nature had pre-empted a rather hampered spot to display womanly proclivities in man.

Broadly speaking, the gross anatomy of the parts ordinarily involved in urinary obstruction includes the parts to which we have briefly referred. If the teaching is to be accepted as correct that enlargement of the prostate is the cause of urinary obstruction in all cases, then the conclusion must be assumed that obstructive symptoms would inevitably attend the presence of the largest prostates found; as surprising as it may seem, this rule was found to be working in the opposite way in the

great majority of the cases investigated. Of my two hundred specimens the largest prostate found gave the least trouble to the patient. This case may be cited as that of Henry Brueggeman, and will serve as a strong illustration of the incorrectness of the teachings at the present time. I shall give a brief sketch of the clinical history and post-mortem findings in this case.

Henry Brueggeman, aged thirty-six, a stockily built German, weighing on admission to the hospital about two hundred pounds, yet but about five feet six inches tall. This man was admitted to the hospital one year ago last October with the symptoms of a small clot in his brain. He remained about six weeks, at the end of which time he left the hospital with, however, a characteristic paretic condition of the right arm and leg, but feeling well and able to walk to the street car. In March last he returned to the hospital complaining that he was troubled with dizzy sensations and requested to be taken into the hospital for rest and treatment. In a day or two after admission, while shuffling along through the hall, he fell to the floor and died next day without regaining consciousness. At the autopsy a large clot was found at the base of the brain and by mere accident the prostate was examined and found to be of enormous proportions with a very large projection of the interfissural segment into the cavity of the bladder. This man never at any time complained of urinary trouble.

Another case illustrating the same conditions is that of Thornton Stewart, negro, aged seventy-five, who died November 21, 1903, resident of St. Louis forty years. He was admitted to the hospital November 20th with a large clot in his bladder. This immense clot was turned out as promptly as preparations could be made, through a suprapubic opening, by Dr. John Young Brown, surgeon in charge at the City Hospital. At the autopsy the prostate in this case was found to be nearly the size of that in the case of Henry Brueggeman, with a much larger projection of the interfissural segment. The hemorrhage, it was seen, had occurred at the top of this intravesical projection and it was presumed that it was the result of attempts to introduce a sound, and while death resulted from the shock of this hemorrhage and its consequent effects the old negro had never suffered in any way from urinary obstruction. The colored woman with whom he boarded, at Twentieth and St. Charles streets, was interviewed soon after the death of the patient and she was positive that "Uncle Thornton" never had any complaints whatever except at long intervals when he suffered from attacks of rheumatism. This woman, by name Jennie Pate, left the old negro in charge of the house on November 7th and he was then cheerful and feeling well. Thornton had been a fireman on the river between St. Louis and New Orleans. His last trip was made several weeks before, he having given up the occupation in consequence of rheumatism in his legs. He was born in New Orleans.

In illustrating the effects of age upon urinary obstruction, I wish at this time to refer to the case of William Rhoades, a negro, who was born to slavery in South Carolina, in 1798; a slave for more than sixty years and a free resident of St. Louis for more than forty years, who died at the City Hospital December 5th, 1903. Rhoades entered the hospital for treatment for rheumatism July 19th last. Death was the result of senile debility. As it may be seen, this patient had attained the age of 105 years and lived through all those years without symptoms of urinary obstruction. In speaking of his family history Rhoades said he had used whiskey until twenty years ago, when he reformed. His father, he said, was shot by a patrol in slave times, a sister was whipped to death by an overseer, and a brother escaping from the slave quarters wandered in the South Carolina swamps until he contracted cholera and died.

The student in prostatic pathology, I am sure, would be able to find much valuable and instructive information in the study of the clinical histories and pathological findings in these three cases:

The prostate, discovered by mere accident, in the case of Brueggeman, who was only thirty years of age, had attained the size of a man's fist, with an equally large-sized intravesical projection. These tumor masses quite filled up the cavity of the bladder, and yet, so far as is known, the patient never complained of obstructive symptoms. In my next contribution to this subject, when describing the mechanism of obstruction, I shall explain the reasons for the absence of urinary interference in such cases.

An enormously enlarged prostate was also found in the case of Thornton; and this old negro enjoyed good health, except now and again an attack of rheumatism, until two days before death. What might have been simply a spontaneous hemorrhage which completely filled the cavity of the bladder, resulted in his death. Certainly here were "prostatic enlargements to a pathological degree," and yet producing no symptoms.

There were no marked pathologic changes observed in the bladder in the case of Rhoades, the patient who had attained the ripe old age of 105 years, except the plica ureterica had encroached somewhat upon the lumen of the vesical opening to the urethra, but aside from obstinate "dribbling" attending the act of micturition he was not otherwise a sufferer from the urinary function.

These cases teach important lessons in many respects, and especially in the case of Brueggeman as to age, and in Thornton's case as it relates to the absence of symptoms, and, too, the enlargement of the prostate in the negro race, and in the case of Rhoades as to the showing of the prostate in the very old. I conclude that there may be stranger things disclosed under the limelight of the dead house than are ever dreamt of in the philosophy of the routine prostatectomist.

612 North Taylor Ave.

[NOTE—The histology of the genito-urinary organs, microscopic pathological anatomy of the hypertrophied prostate gland, together with other practical phases of the subject, including the description of a sensible surgical method for the relief of all forms of urinary obstruction and a large number of illustrations will be published in a later issue of this journal.]

RADIOTHERAPY IN THE TREATMENT OF ACNE VULGARIS.

BY MARTIN F. ENGMAN, M. D., St. Louis, Mo.

There is no group of diseases more difficult to successfully handle than those conditions included under the term acne vulgaris. No doubt several distinct pathological entities are classed under this term. Through the work of Unna, Hodara, Sabouraud and Gilchrist much light has been shed upon the pathology of this group, yet much additional study is necessary to explain many of its clinical and pathological features. Whatever the underlying etiological factors may be in the production of the disease, whether it be due primarily to intestinal derangements, dilated stomach, age, sex, menstrual or sexual conditions, there is no doubt that to produce immediate or even remote therapeutic success, our efforts must be directed to the local destruction or attenuation of certain organisms. From the work of the authors just mentioned we know that there are found in these lesions three forms of micro-organisms: the acne bacillus of Unna, Hodara and myself (micro-bacillus of Sabouraud); some form of the staphylococcus; and the bottle bacillus of Unna (Malassen).

Since 1893, while working with Unna, upon the acne and bottle bacilli, I have made it a routine procedure to examine, when possible, smears from all cases of acne. Several times I have attempted to grow the acne bacillus, but have generally obtained a weak, attenuated growth. However, since planting the little "plug" which can be squeezed from the deep-seated indurated lesions, as suggested by Gilchrist, I have had better success and can confirm his observations relating to the morphology of the organism. It has been my experience that the pus from all indurated acne lesions contains the three organisms: acne bacillus, bottle bacillus and staphylococcus. In many smears myriads of bottle bacilli are found. In the papular forms of acne in which there is only slight pus formation, staphylococci are generally more abundant. In the very superficial, follicular types associated with rosacea, the staphylococcus aureus is usually in pure culture. In the superficial flat lesions, unaccompanied by marked redness or inflammation, which occur about the sides of the face, the acne bacillus occurs almost in pure culture. From long experience in the study of the bacteriology of acne lesions upon the face, by smears and cultures, I feel that I can predict the flora of the lesion from its clinical appearance. It is my regret that careful statistical

notes were not made upon this study except in the last two years. The writer cannot combat the always ready and usual argument of "soil" in questions of infection, yet he feels convinced from his studies, that the van of therapeutic measures should be directed to the local destruction of the organisms existing in such quantities, in any disease of the skin, as they do in the polymorphic lesions of acne vulgaris. He also feels convinced that antiseptic care should be exerted in the prevention of the disease and used long after its apparent cure. "Soil" is very difficult or almost impossible to change, as its characters rest upon such obscure foundations, but infection, by proper care can often be prevented, as its factors are tangible and not so difficult to understand.

The treatment of acne has not varied much in the last twenty-five or thirty years. It has mainly consisted of both general and local measures, the latter always including more or less powerful reducing and antiparasitic remedies, in the form of lotions, soaps, powders, pastes or salves. Most of these formulæ contain sulphur, mercury and some astringent. Through the action of the reducing agent sealing of the epidermis is induced which is brought about by a certain amount of local inflammation: leucocytosis, with slight microscopic serous effusion or serotoxis. It is hardly probable that these antiparasitic or reducing agents act upon the organisms, in the deeper acne lesions, directly and by that means destroy them; it is more plausible to attribute this action to the phagocytosis which these remedies induce—*i. e.*, the reactionary inflammation. None of the various drugs used for acne act as specifics. The intensity or degree of their action is dependent upon the per cent. in which they are used, therefore, the resultant inflammation and therapeutic effect is proportionate to the strength used. The rapid sealing methods of Unna, Lassar and others often produce quite acute and active inflammation, and, therefore, a more rapid beneficial result or resolution of the acne, than the slower methods, in which weaker strengths of the reducing agents are employed. The internal or general measures used in the treatment of acne are directed to building up the resistance of the patient—that is, to correct any condition which is apparent or could interfere in his general well-being. No internal remedy is vouched for as a specific in this disease.

Therefore, in the management of acne a local leucocytosis is the principal and first step to be attained. Since the introduction of the x-rays into medicine, it has been demonstrated by various observers that through their influence a local leucocytosis can be obtained, the degree of the leucocytosis being dependent upon the various factors which enter into the state and management of the energized tube. Therefore, in the x-rays we have a remedy which produces a local leucocytosis over which we have, to a certain extent, more control than that produced by the various reducing agents so commonly used; and, without the usual disfigurement to the patient, which the latter cause by the grease and the unsightly

sealing or inflammation which follows their use. This latter fact is also decidedly in favor of the rays from a cosmetic standpoint: furthermore, the influence of the rays is continuous, and the business or social habits of the patient cannot interfere in the result. No matter what the disease, the patient is, when ambulatory, not infrequently the greatest obstacle in its proper management, in his not following the directions given him. In acne is this particularly so, as the disease occurs in the young and thoughtless, therefore any remedy which can be as easily used as the x-rays and whose effects are continuous is doubly beneficial, for it is only necessary to expose the diseased area to the rays at certain definite intervals to obtain a leucocytosis or an effect sufficient to obtain a result. This point appeals to the writer as of great advantage in these cases, as it is not necessary to rely upon the patient's judgment, habits, promptness or thoroughness in the application of the treatment.

Since the month of May, 1902, the writer has made over seven thousand therapeutic x-ray exposures. Included in the cases thus treated are forty-eight cases of acne vulgaris. As this number is sufficient to enable one to draw some conclusions, he feels justified in reporting his results with this form of therapy in the treatment of this disease. The literature upon radiotherapy in acne is now quite voluminous, and there is no doubt that the remedy is at present widely used in the treatment of this condition. It was through the early writings of Pusey and of Zeisler that the writer began to thus employ the agent. At first he used the rays very tentatively and with great trepidation, as the fear of burning the face of a young girl was a perfect nightmare. However, through repeated use, sufficient confidence was established to enable him to use the remedy in sufficient dosage to obtain beneficial results. For a long time this fear of an untoward effect obscured the judgment of the operator to such an extent that he was in despair and was on the point of abandoning the method as useless, as his results at that time were valueless. But after gaining more confidence in the use of the tubes and machine, and through careful study of x-ray literature, especially that pertaining to productions of "burns" and dermatitis, more potent doses were given with surprisingly (to the writer) beneficial results. The treatment of acne vulgaris by any method is, in the writer's experience, a long and tedious procedure. Relapse is the rule, and disgust and loss of confidence, by the patient, the consequence. It is theoretically possible to permanently cure acne, but practically impossible, as the patient is a human being with a mind and a will of his own. He cannot be put in a position where relapses can be prevented; therefore the best we can do is to clear up an attack, and try and prevent recurrence by proper measures and advice. To do this, his general condition must be put at the highest point of health and resistance possible through the installation of those measures, hygienic and

medicinal, which are obviously indicated. This is always necessary in all diseases, no matter what the etiology or the pathology of the disease may be—whether it be caused by the local or general invasion of some micro-organism, or by some vague metabolic condition. Therefore, it is of prime importance to look after the general health in acne, whether the constipation, headache, anemia, etc., be due to the disease (local infection) or the disease (acne) to any one or a combination of the above symptoms.

We will admit the great value of general treatment, including diet and hygienic measures, in the management of acne. Such measures are important and often of great assistance, yet too much dependence must not be placed upon them. *I have never yet seen an acne markedly improve by general measures alone.* There are a few rare instances when an attack will disappear during a vacation at the sea-shore or in the country, when the patient is constantly out-of-doors and is exposed to the bright sunshine of summer. But the question occurs to one, how much of this improvement of the local condition is due to the action of the actinic rays of the sun, the leucocytosis of the sunburn? Never yet, except in these cases of sunburn, have I seen an acne vulgaris disappear without local treatment, and repeatedly have I tried internal and hygienic treatment *alone*. In the consideration of such cases of cure it is well to remember that the age of immunity varies with the individual, and, after a certain age, acne tends to get well and an immunity is established. One such case of mine, at the age of twenty-two years, got permanently well under a boric acid lotion and arsenic, for which I received much credit; yet I am positive that she had reached her immune time, and that the treatment had little to do with her cure.

As I have seen no marked benefit from general treatment *alone*, and as I have found very marked improvement from well-directed *local* measures *only*, I therefore naturally place the greatest stress and importance upon this point. I may even go further and say that I have observed marked general improvement in the general condition of several patients, in their anemia, lassitude, headache and constipation, after eradicating a bad acne solely by local means. This I have seen several times, and the observation to me is of great interest in considering the etiology of the acne syndrome. It is, however, possible that the removal of a conspicuous and long-standing eruption from the face of a young girl may relieve her mental status to such an extent that her general condition of well-being is thereby established, and the general improvement may then not be wholly, in such a case, attributable to the removal of the organism of the acne and its toxins.

The local treatment of acne differs as to the type of disease present. In the very superficial types, with only slight pus formation and a few comedones, only mild parasitocides or reducing agents are necessary with soaps and lavage. In such cases the lesions are so superficial that local

applications can act directly upon the pathological condition. Scaling by Unna's or Lassar's method is a quick and efficacious means. In such cases Fox's method of curetting the face frequently is excellent; in fact, in my hands it has proved a more rapid and beneficial method than that of radiotherapy in these very superficial cases.

[TO BE CONTINUED.]

A CASE OF ABDOMINAL ANEURISM.

By W. J. CALVERT, M. D., of Columbia, Mo.

OF THE UNIVERSITY OF MISSOURI.

Aneurisms of the lower portion of the abdominal aorta are of sufficient rarity to merit a brief description of their clinical manifestations, with autopsy records.

T. C., male, white, aged thirty-five years, American, has been a resident of St. Louis for six or seven years, during which time he enjoyed fairly good health. Family history: negative. Past history: patient had none of the diseases of childhood (?); gonorrhoea at twenty-six, and three attacks of sciatica within the past two years. Syphilis denied. In recent years patient has suffered from constipation, requiring a daily laxative. History otherwise negative.

Present illness began Tuesday morning, May 26, 1903, with sharp sticking pains in left leg, which radiated to back, hips and lower left abdomen, most marked in posterior portion of thigh, simulating sciatica. On Thursday, May 28th, at about 3 A. M., I was called to relieve the pain due to what was then thought to be sciatica. No physical examination was made, as the patient was suffering intensely. One-eighth grain of morphine was given hypodermatically.

On Friday, May 29th, at about 1 A. M., I was again called to relieve the patient. This time, notwithstanding the intense pain, a physical examination was made with the following results: Temperature, 102°; patient bathed in cold perspiration; face rather pale; eyelids widely separated; pupils slightly dilated; anxious expression; tongue heavily coated white; pulse, 110; respiration superficial (thoracic) and somewhat labored, 30 per minute; lungs normal; heart normal, no murmurs detected.

Abdomen.—Upper portion somewhat lower than costal margin, and flat; lower portion, from about an inch above umbilicus, slightly higher than upper portion. Inspection showed no pulsation. Palpation revealed a doughy mass in left hypochondriac region, about two and one-half inches in diameter, which (apparently) could be followed along the path of the descending colon into the pelvis. Through this mass, especially in the upper portion, pulsation of the abdominal aorta could be

felt. Marked muscular rigidity over entire left side of abdomen. Light percussion gave tympanitic note over entire right side and on left side, except over the mass in hypochondriac region, and from anterior axillary line into back. Auscultation revealed nothing. External genitals and lower extremities negative. Pressure over sciatic nerve painless. Bowels had not moved for three days; one or two involuntary passages of urine noted.

In the light of a temperature of 102°, pulse 110, anxious expression, rapid superficial respiration, muscular rigidity on left side, doughy

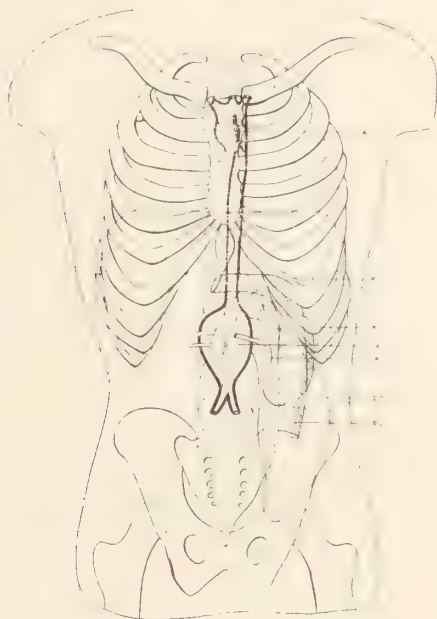


FIG. 1. Shows anterior view. A, aorta with dilatation and aneurism; P, pancreas; K, left kidney; B C, blood cavity extending almost to Poupart's ligament; D C, descending colon.

tumor mass apparently along the descending colon, chronic constipation, a diagnosis of fecal impaction, with perhaps some accompanying inflammation of surrounding peritoneum, was made.

At 10 A. M. on Friday, May 29th, patient had not improved. Tumor mass and rigidity about the same; temperature, 102°; pulse, 120; respiration, 30. Anticipating surgical procedure, Dr. Mudd was called in consultation, when the previous diagnosis was thought most probable. Patient was removed to St. Luke's Hospital at 5 P. M., May 29th.

On admission temperature was 101°; pulse, 132; respiration, 32. At 9 P. M. temperature was 102°; pulse, 120; respiration, 30; patient

slightly nauseated. During the night temperature, pulse and respiration remained about the same as at 9 P. M.

Up to this time treatment consisted of morphine to relieve pain, calomel and soda and magnesium sulphate, and repeated enemata to clear the bowels and colon. Most of the enemata returned heavily laden with brownish-black, lumpy fecal matter.

During the day, May 30th, condition remained about the same as previously noted. Late in the afternoon the first particles of yellowish fecal matter were noted; temperature had dropped to 100°; pulse, 94; respiration, 26; muscular rigidity had disappeared. At this time the tumor mass could be easily palpated. Location, in left hypochondriac region just free of margin of ribs, was firmly attached to posterior abdominal wall, did not move with respiration, dome-shaped, surface smooth, consistency hard, transmitted aortic impulse. It was thought that the colon could be felt over the mass. In left lumbar region considerable subcutaneous edema and slight pulsation were noted. Pulsation seemed transmitted. The doughy mass extending into the pelvis had almost entirely disappeared. Percussion revealed nothing new, and auscultation was negative. Pulse in both legs regular. Total quantity of urine not taken. Sample, dark-red color, contained numerous shreds from an old urethritis. Microscopic examination revealed a few pus, an occasional kidney and numerous bladder cells, mucous cylindroids. A slight amount of albumen, but no sugar, was noted. Blood-count showed 12,000 leucocytes per centimeter.

The question of diagnosis was at this time uncertain. The onset of the attack, presence of anxious expression, fever 102°, pulse 110 to 130, respiration 26 to 30, intense muscular rigidity, pain over left abdomen on pressure, condition of urine and blood, in the light of a history of chronic constipation, looked very much like fecal impaction with peritonitis or abscess formation which had extended to the posterior wall. From location, shape, size and consistency of tumor-mass, no particular organ was suggested.

As the condition of the patient had improved it was decided to await developments. When the patient was examined about 11:00 A. M. Sunday, May 31, the tumor extending along the course of the colon into the pelvis had returned. Temperature, 102°; pulse, 130; respiration, 30. Paroxysms of pain were severe and frequent. Heaving pulsations in lumbar region were present; no murmurs. Up to this time save an occasional involuntary passage of urine and pain, no nervous manifestations had been observed. Patient now complained of some pain along left cord.

At this time an abdominal aneurism was suggested by the reappearance of the tumor and the heaving impulse. No aneurismal tumor could be detected. During the afternoon of 31st, patient was slightly delirious. During June 1st a slight paralysis of left leg was noted by

Dr. Clopton. Patient became unconscious and died at 12:20 A. M. June 2d.

Note from autopsy: Ascending portion of arch of aorta dilated, beginning of a tubular aneurism. On removing the intestines a large tumor mass was seen in the left side of vertebral column. This mass was composed of a part of the duodenum, adherent to right side of left kidney; over the upper portion the pancreas passed from upper left downward toward right side, quite firmly fixed; the larger portion of the mass was formed by the left kidney which was pushed forward and in-

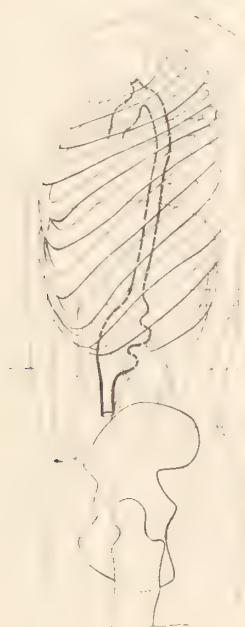


FIG. 2. Shows view of left side; letters same as in figure 1. O, edema in lumbar region. In this figure B C should be shown slightly more posterior to indicate how the kidney was pushed forward; at the same time it must be remembered that at this elevation the cavity was very near the vertebral column.

ward, the upper end more prominent; below and to the left of kidney the posterior wall of peritoneal cavity was pushed forward and on pressure felt doughy. On removing the diaphragm an aortic aneurism firmly attached to and covering the anterior portions of the bodies of the first, second and a portion of the third lumbar vertebrae was seen projecting one and one-half inches above the vertebral column. On removing the aorta an intense arterio-sclerosis was found throughout its course. The abdominal aneurism was firmly attached to the vertebrae and the posterior portion of the wall of the aneurism together with the greater portions of the bodies of the first, second and third lumbar ver-

tebræ had been absorbed. Through the body of the second lumbar vertebra the aneurism had ruptured into the muscles in the left side and the blood had burrowed into the retroperitoneal and muscular tissue as far as the brim of the pelvis. The spinal canal was not involved. Sclerosis of liver, enlarged spleen and sclerotic kidneys were found.

Judging from the relative size of the aneurism and the origin of the renal arteries from its anterior wall, the aneurism began on a level with the renal arteries and grew posterior, leaving the vessels springing from the anterior and lateral walls in their normal relationship. The pressure exerted on the left renal artery by this forward movement of the aortic wall caused the upper end of the kidney to rotate forward, toward the right; the forward movement of the kidney by the formation of the blood cavity sufficed to give it the prominence above noted. The shape of the kidney was masked by a large amount of areolar tissue, the pancreas and large gut which passed from above downward along a vertical diameter of the mass. The retroperitoneal blood cavity extended from the upper lumbar vertebrae through the psoas muscle almost to Poupart's ligament and varied in width from a few mm. to the width of the retroperitoneal tissue, and in places was one and one-half inches deep in antero-posterior direction. Tissues in all directions were infiltrated with blood.

The tumor mass felt in upper portion of abdomen was composed of the upper end of the left kidney, pancreas and a part of the intestines, consequently was misleading in that the shape of the kidney was masked, tumor had no expansile character and transmitted the aortic impulse. The pulsation felt in the lumbar region was similar to that felt in the kidney, probably on account of the circuitous connection of the blood cavity with the aorta, until Sunday and about thirty-six hours before death, when an aneurism was first seriously considered. The rapid pulse and respiration were undoubtedly caused by the loss of blood in the retroperitoneal region and pain, while the changes going on in the extravasated blood and neighboring tissues produced the fever.

Retrospective.—In view of the extensive aortic arterio-sclerosis and cirrhosis of the liver it is most probable that at the age of twenty-six the patient received a double infection, syphilis and gonorrhea. The onset of terminal sickness is of interest in that it was preceded, within two years, by three attacks of sciatica, and began as sciatica. True, the patient had pain in lower left abdominal region, but this seemed secondary to the sciatica, as he called it. Two days after onset the pain was transferred to abdominal region and radiated to leg. It has been a question in my mind whether or not the patient was mistaken regarding the real seat of pain.

The involuntary passage of urine could have been produced by any tumor or inflammatory process involving the nerves. Absolute absence

of pain in left cord or testicle until one day before death is worthy of note. At no time did pressure on the spinous processes produce pain.

When the unmistakable transmitted pulsations of the tumor mass were first observed, an aneurism was suggested, but repeated examinations failed to reveal an aneurismal tumor. Even with the abdominal cavity opened the aneurismal tumor could not be positively identified until considerable tissue had been removed. This obscurity was due to the slight elevation of the anterior wall of aneurism above the normal level of the anterior wall of the aorta, the firm adhesion of the wall of the aneurism to the vertebræ and the overlying structures. About three-fourths of the body of the second lumbar vertebra had been corroded without seriously interfering with the patient's activity, as he performed all of his duties as a reporter on one of the large daily papers without difficulty until six or seven days before death.

Aneurisms on the lower portion of the abdominal aorta are very rare. Schroetter¹ records out of 19,300 autopsies, 220 aneurisms, three of which were in the abdominal aorta. In the anatomical museum at Netley, Wille² found twelve abdominal aneurisms among 110 specimens.

Abdominal aneurisms are most frequently located about the origin of the celiac artery, and often extend through the diaphragm, affecting a portion of the lower thoracic aorta; less frequently, they arise about the origin of the superior mesenteric artery, leaving the lower portion of the abdominal aorta as the rarest seat of aortic aneurisms.

The special points of interest in the case are three previous attacks of sciatica, terminal illness initiated by an apparent sciatica which rapidly assumed the characteristics of fecal impaction with peritoneal involvement, definite signs of aneurism absent until two days before death.

Anomaly.—Right kidney was supplied by two arteries.

1. Schroetter. *Erkrankungen d. Gefasse. Specielle Pathologie. Therapie.* Nothnagel, 1901.
2. *l. c.*

CLINICAL REPORT.

RUPTURE OF THE QUADRICEPS EXTENSOR TENDON.

BY NATHANIEL ALLISON, M. D., of St. Louis, Mo.

To the reports of Dr. Stetson,¹ of Greenfield, Mass., and of Dr. Ronginsky,² of New York, I wish to add another case of this rather rare injury.

S., man of heavy build, while mounting a stair which was not guarded by a rail, fell from the fourth step to the floor below. This accident occurred early in November, 1903. He was somewhat stunned by the fall, was unable to rise and thought he had broken his right leg, as he felt it give way and heard a distinct crack as he struck the floor. He was placed in bed with his leg in a flexed position. I was called to see him within an hour after the injury.

Examination showed the following facts: Marked swelling of the right knee; on extending the leg on the thigh a distinct hollow appeared just above the patella; this hollow would easily admit one finger and through it the condyles of the femur could be felt; the patella was drawn downward and its upper edge was perfectly evident. An attempt at extension on the patient's part was followed by no motion of the leg. There was no sign of injury to the bones. I advised immediate operation, to which the patient would not agree.

The leg was fully extended on the thigh, by the use of broad adhesive straps applied in a crossed manner, the patella was secured in a position as high as possible, coaptation splints were placed on the anterior surface of the thigh to limit the action of the quadriceps, and the whole extremity was placed in a plaster of Paris bandage.

After two weeks this bandage was removed, the gap was no longer visible or palpable. Any attempt at motion was carefully guarded against, another bandage was applied similar to the first with the exception of the coaptation splints.

After four weeks of recumbency the patient was allowed crutches; these he used for two weeks more, then all bandages were removed again. There was some thickening of the tendon and the union seemed perfect. The patient was able to extend his leg quite freely but he said he felt a sense of weakness in his knee. The knee was bandaged and the patient allowed to go about with a cane for support; he was cautioned against sudden or violent motion. At the present time he has full use of his limb.

1. Herbert G. Stetson. "Rupture of the Quadriceps Extensor Femoris Musclev." Boston Medical and Surgical Journal, August 13, 1903.

2. A. J. Ronginsky. "A Case of Rupture of the Quadriceps Extensor Femoris Musclev." New York Medical Journal, November 14, 1903.

EDITORIAL COMMENT.

HOSPITAL INFECTIONS OF CHILDREN.

It is a common experience in hospital, to find that a child, admitted for some trivial complaint, contracts an infection in the wards, much worse than the original trouble. Broadly speaking, these hospital infections may be grouped into three classes: respiratory, gastro-intestinal and cutaneous. This subject has been carefully studied recently in the wards of Prof. Hutinel, at the "Enfants-Assistés," in Paris. It was found that nearly all young children, especially those admitted for chronic, afebrile conditions, showed a rise of temperature shortly after admission to the wards. Within a day or so a pharyngitis and amygdalitis of greater or less degree was almost the rule. The stronger children, with greater powers of resistance, soon recovered. In the weaker children, however, gastro-intestinal troubles supervened with great frequency. Careful bacteriological examination showed that the primary infection was, in many case, due to the streptococcus. In like manner, respiratory disturbances, leading only too often to bronchopneumonia, were very common, accompanied as is usually the case in hospital, with a very high mortality.

Mild skin affections, such as eczema and impetigo, which yield to treatment readily enough outside the hospital, are also apt to be much more serious in hospital. These cutaneous lesions, in hospital, offer ports of entry for pathogenic germs, and so generalized infection is not uncommon. One sign of this, even in mild cases, is the acute generalized adenopathy, which is so common.

In this connection the recent experiment of Weill, of Lyon, is of interest. He had all the bedlinen for his skin cases sterilized, and treated all the cases on strict aseptic and antiseptic principles. Surprisingly good results—in a hospital where these had been unknown before—were obtained.

The practical lesson to be drawn from these researches would seem to be that the number of children in any one hospital ward should be very small. Even though no contagious cases be admitted every attempt should be made to enforce as rigid antisepsis as possible. Unfortunately, asepsis, *per se*, is often out of the question, but in modern hospitals much can be done in this direction, and the results to be obtained more than compensate for the necessary effort. In the Pavillon Pasteur of the Enfants-Assistés, for instance, which conforms in every detail of construction and management to the modern idea of hospital sanitation, most excellent results have been obtained. It has been shown that hospital infections in this ward are much less frequent, and when they do occur, much milder than in the rest of the hospital, although the class of patients admitted is alike all over the house.

KIDNEY TUBERCULOSIS.

The brilliant results obtained by surgical interference in kidney tuberculosis are prone to make us forget the medical and hygienic aspects and lead us to neglect the real surgical indications. It would be well, therefore, to stop and consider what is accomplished by surgery, which at best is only palliative. We must admit that we cannot ascertain definitely that the kidney lesion is primary, nor do we know that we remove or can remove the whole infected area; facts which are borne out by the number of cases which develop the disease in the "other kidney" after surgical intervention. These cases are too numerous to be exceptional. It is reasonably certain that some cases of urogenital tuberculosis, other than that of the kidney, do recover without operation, and since the refinement of our diagnostic acumen has led to the recognition of tuberculosis of the urinary system in a stage earlier, certainly, than in former years, we may expect more from hygienic treatment than in the past, and, especially, as the whole treatment of tubercular conditions has of late years given better results. In fact, we have learned that tuberculosis in its early stage is quite a curable disease, and that we may look for definite results from medical and hygienic treatment. It may not be unreasonable to assume that our improved means of diagnosis will enable us to recognize urogenital tuberculosis in its incipency, to differentiate those cases of kidney and ureteral disease which mimic bladder disease in their symptoms, to adopt appropriate medical and hygienic treatment, and thus reserve surgery only for those cases which come to us with distinct surgical indications, or in which medical and hygienic treatment after persistent use has failed. While the excellent showing made by Hunner in his article, "Tuberculosis of the Urinary System in Women" (*Johns Hopkins Hosp. Bul.*, January, 1904), from an observation of thirty-five operated cases, is encouraging, yet we must approach his conclusion that from this observation he considers the disease pre-eminently surgical, with a certain amount of reserve.

IN MEMORIAM.

Death, the relentless, has left an aching void in our ranks. An unusual man, in the very height of his creative ability, has been torn from our midst. The medical profession and the citizens of St. Louis stand sorrowing at the bier of one of their most worthy representatives, mourning the loss of a man who through his lofty character and upright striving for truth, had won for himself universal respect, highest personal esteem, and undying affection.

Edward Charles Runge was born of German parents in St. Petersburg, Russia, September 7, 1856. He received a careful education and graduated at the age of eighteen from the gymnasium. From boyhood, it was his ambition to become a physician, and he was just about to enter the medical college in St. Petersburg when his father died, leaving him the sole support of a mother and a family of brothers and sisters. This necessitated his giving up his plan of studying medicine and going into a mercantile position. When he arrived at the age of twenty-six years, his younger brothers and sisters having been educated and being able to care for themselves, he came to America and arrived in St. Louis in February, 1883. Here suffering severe deprivation, even starvation, he seized the first opportunity for earning an honest penny and became a baggageman at the Union Station. His linguistic talents made him useful as an interpreter and brought him to the notice of higher officials who assisted him in bettering his position. Thus he could at last realize his dream and entered the St. Louis Medical College. But through lack of funds he had to give up his studies, and only after securing a scholarship and a night position in a mercantile office was he enabled to conclude his first year in the college. The following summer he obtained a position as Pullman car conductor and in that way succeeded in completing the last two years of his medical course, graduating in 1890. After a few months spent as interne at the Female Hospital and three years of private practice, he was appointed superintendent of the City Insane Asylum and assumed his duties May 16, 1895. This position he held until within a few days of his death, February 10, 1904.

These short notes illustrate but one feature of a rare personality: an indomitable energy, an untiring will-power and a capacity for driving ahead against seemingly unsurmountable obstacles. Dr. Runge's philosophy, which he practiced as few men can, culminated in the axiom of the freedom of the will and of the personal liberty of body and soul. Freedom from all political and conventional restrictions was his foremost ideal, but freedom in the moral sense, never in the sense of the conqueror, who disregards the laws that protect the rights of others. For Right had become to him something more than a mere abstraction; whatever he considered right he did, regardless of personal conse-

quences. A strong nature such as his knows no middle path, and cannot go through life without making enemies; he was strong in his aversions, but always frank and open as a foe. When such a nature puts its strength into liking, the constancy of friendship is ideal, and there are many who will remember with sincerest gratitude this man who was always ready to lend a helping hand or to give his valuable advice.



He was surprisingly versatile; his literary interests were numerous, though such writings as echoed his philosophical views naturally claimed his chief attention. Of the classics, Schiller (in his dramas depicting the struggle for freedom) appealed to him most; of the modern authors, Maxim Gorki, a Russian, struck a sympathetic note. He had a fine understanding of music: and here again the gigantic struggles of Beethoven awoke his keenest sympathy and appreciation.

Russian hospitality is far-famed, and Dr. Runge well represented the land of his birth. These lines will recall to many of our readers the delightful evenings in the apartments of the Superintendent of the Insane Asylum, where the artistic surroundings bespoke the mental refinement of the owner, where good cheer and spirited discussion rivaled material comfort.

He loved his adopted country, and, filled with true public spirit, strove with all his might toward improving and beautifying his home city. But beautiful above all was his relation to those unfortunates entrusted to his care; they were not "insane patients"—they were his "guests," his "friends." His first and last thoughts were devoted to the betterment of their condition; they formed his family, for whom even financial sacrifices were gladly and eagerly made.

This man, who has spent his life in useful and unselfish work, is no longer among us. May this tribute paid his memory by a friend, erect a monument for him in the hearts of his fellow-citizens.

GEORGE GELLHORN.

This journal has been honored on two occasions by contributions from the pen of Dr. Runge, and attention was called to them editorially. In any consideration of his literary activity, and in any just estimation of his service to medicine and to the community in which he lived, these two papers should receive the first mention. Before Dr. Runge's asylum activity some papers on clinical neurology appeared from time to time. Of these, one on a case of syringomyelia, and another on a case of rumination, might be mentioned. Papers of this sort can, in the nature of things, show little more than careful study of symptoms and a just estimation of the work that has been done on the subject by others. So much was always apparent in these papers. With the first appearance of the annual reports the almost unique service of Dr. Runge as a medium between the public whom he served and the medical profession, who, in most instances, sent him the material for his work, began to be recognized. This recognition came slowly at first among the very ones to whom his labors ought to have meant most. Each year these annual reports grew in favor as they grew in power and in interest, until they came to be eagerly awaited for by physicians interested in the institutional treatment of the insane, and by laymen in other professions to whom all rightly-directed municipal effort was a matter of interest.

The story of a strong man's life is known, as a rule, to very few outside of his friends and intimates, and even these are often in the dark concerning the thing that lies nearest him. Dr. Runge has left behind him a record of his effort told in these annual reports which tell the

story in a more eloquent way than anything that can be said in this place. Those who will read these accounts in the light of a personal knowledge of the man can come very close to an unusually vital and stimulating personality.

The service that Dr. Runge has done for St. Louis especially, and for other municipalities with the same sort of problem in the care of the insane, may be known by considering the institution, the insane asylum, before and after he became superintendent. It was built originally to accommodate three hundred patients: there were no adequate means of making room for more, there was no equipment worthy of the name, and the traditions left behind were of the most antiquated and narrow. In eight years there were in the asylum at all times over seven hundred patients, and within the narrow limits which were imposed by the municipal powers the place had changed and had become the modern insane hospital. All this had been done, and no one but those who know can appreciate what this means, without any additional equipment that amounted to anything and without an increase in the medical or administrative body. This means that Dr. Runge's personality had so filled the institution he controlled that it reflected his own spirit in every one of the departments, and nowhere was this better shown than in the attitude of the patients themselves toward the superintendent and to the institution.

It is given to few men to leave behind them the story of their best effort in an enduring way. Those who have learned to know Dr. Runge, and the smaller number who were admitted to his closer friendship, may derive some comfort from the fact that the thing he loved most will live as a part of him. This is the sort of immortality of effort and method which would have appealed to him more than the traditional kind. The story of Dr. Runge's eight years there is a part of that institution's history, and the ideal established there will always be in the minds of those who seek for better things in city institutions.

SIDNEY I. SCHWAB.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

The Value of Antitoxin as a Prophylactic Measure Against Diphtheria.—ZUPPINGER (*Wiener Klinische Wochenschrift*, No. 2, 1904) publishes the favorable results of his investigations along this line, and reviews carefully the results obtained by other observers. The reports presented by the Italian and French representatives at the Congress of Hygiene at Brussels, are worthy of special mention. The Italian statistics included 14,967 prophylactic injections with 1.8 per cent. of diphtheria cases following. In this report great stress was placed upon the importance of educating the public to a full realization of the efficacy of the procedure. The time is propitious for looking to laws which will make the prophylactic measures compulsory. Before this can be done, however, steps must be taken to lower the price of the serum. Until this is done, it would hardly be possible to compel its use, as is done with vaccination. The serum should be more widely produced under strict sanitary supervision.

Too much must not be expected from the serum alone, but at the same time careful disinfection, and isolation must be observed.

The use of serum in diphtheria cases is at the same time an important prophylactic measure, in that it shortens the process and thus limits the time during which others may be exposed.

The French report at this meeting was presented by Professor Netter, who proclaimed the serum injections to be the most valuable prophylactic measure against diphtheria.

In France about 12,000 such injections had been made; 4,121 injections in the families where diphtheria existed; 2,000 in hospitals, and 5,300 children in hospitals who had not necessarily been exposed to the disease. Of these, 3,000 were suffering from measles, and 1,000 from scarlet fever.

The injections produced almost complete immunity for a period beginning twenty-four hours after the injection and lasting twenty-eight days. Children who developed diphtheria after the injections and after the period of immunity had very slight attacks.

Complications following the injections are rare and not of a serious nature. When abscesses develop it is due to a faulty technique. The prophylactic dose is 500 units. The injection should be applied to every child in the family in which the case exists, whether exposed or not.

In hospitals the injections must be given without delay when cases have developed there. The same may be said of schools. Systematic injections every four weeks in children hospitals prevent the possibility of cases arising there.

In the pavilion for measles the injections should be somewhat larger and the periods shorter.

The results published by authorities in Germany, Austria and Holland are quite as favorable to the procedure.

Statistics presented in the Italian report showed the percentage of immunities after the prophylactic injection in different countries to be the following: Italy, 98.2 per cent.; Austria, 98.45 per cent.; France, 97.57 per cent.; Germany, 96 per cent.; Norway, 98 per cent.; Holland, 98.61 per cent.; Russia, England and the United States, 99.1 per cent.

Notes on the Widal Reaction: (1) **The Question of Dilution.** (2) **The Influence of Jaundice.**—LIBMAN (*Medical News*, No. 5, 1904) believes that the dried specimens of blood are quite as satisfactory in the application of the Widal reaction as the serum, when properly taken. The drop should be a trifle larger than the head of a pin. If larger drops be taken, the specimen must be dried before the blood coagulates.

The writer has examined the blood in some 1,500 cases. Of these, 550 were cases of typhoid fever. In the 950 cases which were not typhoid fever, a Widal reaction was never reported positive even in a dilution of one to twenty. In all of these examinations dilutions of one to twenty and one to fifty were used (time limit, thirty minutes and one hour, respectively). In some instances a positive reaction was found in a dilution of one to fifty when the reaction was negative or not clearly positive in a dilution of one to twenty. In some cases this was probably due to the fact that in a dilution of one to twenty the lytic action of the serum is so marked that we cannot obtain a clear picture, in other cases to the pro-agglutinoid bodies (Shiga). Among 165 cases of typhoid fever, a co-incident positive reaction was found in dilutions of one to twenty, and in 127 cases in dilutions of one to fifty. In twelve cases the reaction was positive in a dilution of one to twenty, two days before it was positive in one to fifty. In some instances even sixteen days elapsed before the reaction became positive at one to fifty; and in eight cases which were positive in a dilution of one to twenty there was no reaction in a dilution of one to fifty during the time of observation of the patients in the hospital. From all these data it is evident that both of these dilutions should be used in the performance of the agglutination test.

The observations of the writer relative to jaundice and the Widal reaction lead him to the conclusion that jaundice *per se* does not cause a positive reaction. He points out the deficiencies in the cases cited in literature. While icteric serum may at times be possessed of a certain amount of agglutinating power, there is no definite proof that it can produce sufficient agglutination to interfere with the clinical diagnosis.

The Clinical Picture of Primary Endothelioma of the Pleura.—UNGER (*Wiener Klinische Wochenschrift*, No. 52, 1903) observed a case of primary endothelioma of the pleura from the inception of the clinical symptoms. The first symptoms were those of pain in the right half of the thorax, cough and dyspnea. The paroxysmal pains were often unendurable. There had existed at no time night-sweats, fever or ex-

pectoration. The nutrition was poor, and the patient rapidly lost weight and strength.

The physical examination showed an affection of the right pleura, viz., distention of the right half of the thorax, bulging of the intercostal spaces, and a lagging of that half of the chest on respiration. There was absolute dullness over almost the entire half of the thorax. The respiratory sounds, the vocal fremitus and the pectoriloquy were diminished. In spite of the severe cough there was no expectoration.

Upon making a puncture there was marked resistance to the passage of the needle through the pleura. Only 100 cc. of a hemorrhagic fluid were removed.

This train of symptoms pointed, not to a simple pleurisy with effusion and pleural thickening, nor to a hydrothorax, but to a primary tumor of the pleura. The autopsy corroborated the diagnosis. The infrequency of such cases renders the differential diagnosis very difficult and of great interest.

Purulent Pericarditis Secondary to Pneumonia, with Operation and Recovery.—SCOTT (*N. Y. Medical Journal*, January 30, 1904) reports a case of purulent pericarditis following pneumonia which recovered fully after operation. The features of interest in the case are the absence of leucocytosis during the pneumonia, and its development with the pericarditis: the absence of the pericardial friction, both before and after the pericardium was opened: the absence of fever (subnormal temperature), with pus in the pericardium, and the recovery of the patient without the physical signs of an adhesive pericarditis.

Leucocytosis is not always present in lobar pneumonia. In seventy-four cases observed by the writer, three presented leucocyte counts under 5000, and eleven were between 5000 and 10,000. Three died with leucocyte counts, respectively, of 4400, 4325 and 6000.

The absence of friction-sounds throughout the entire course, and absence of fever, have frequently been noted, and are of value in the diagnosis of septic pericarditis.

The Presence of Multiple *Tenia Saginata* in the Human.—RIEHL (*Muenchener Medicinische Wochenschrift*, No. 52, 1903).—Though the *tenia solium* has often been found in varying numbers in the intestinal tract, the *tenia saginata* has rarely been found so. The author finds about ten cases reported in the literature.

He presents a case in which two distinct specimens were found, following the use of the extract of male fern. Two doses were given on different days, and following each a worm was passed. The case is of interest not only because of the multiplicity of the parasites, but also because of the manner in which they were passed.

The Inhalation of Calcium Dust and Its Relationship to Tuberculosis of the Lungs.—RECKZEH (*Berliner Klinische Wochenschrift*, No. 45, 1903).—It has been maintained by some that the inhalation of calcium particles has a tendency to heal various lung troubles, and especially tuberculosis. This claim has been chiefly supported by the owners of calcium works, who state that those who work in an atmosphere containing these

particles are cured of lung troubles. The author treated a series of cases systematically with a view to determining the truth or falsity of this assertion. The patients were made to inhale air containing freshly-burned calcium dust for a certain period each day.

He not only found no improvement in these cases, but a decided aggravation of certain symptoms, such as the cough, headache, weakness, etc.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

The Vagus Nerves and Peritonitis.—FRIEDLAENDER (*Lugenbeck's Archiv*, Band 72, Heft 1) made a series of most interesting animal experiments calculated to determine the influence which these nerves have in determining the symptoms of peritonitis. Where sepsis is the leading feature in a case it was found that the vagi have little to do with the matter; but here the chief role is played by the abdominal sympathetic system, these being the nerves which transmit pain stimuli. The vagi come especially into consideration in those cases where there is a lack of relation between temperature and pulse, as in strangulated hernias and the like. Here the increase in the pulse rate is directly due to stimulation of these nerves, and the author's experiments prove this beyond a doubt, because the pulse failed to increase in those animals whose vagi had been divided before the peripheral irritation was made. It is impossible in a short review to go into the many interesting details of the author's experiments.

Two Cases of Hernia in the Middle Line Below the Umbilicus.—RIVIERE (*Gazette des Hopitaux*, No. 7, 1904).—The author has found only one other similar case in the literature, consequently he feels that his two are worthy of report on account of their rarity. Both the patients were adults, and the first was cured by a simple suture of the wall in four layers. The second, however, suffered from strangulation and died after an intestinal resection. Both of these hernias occurred at what the author is pleased to term a very weak spot—that is, at the point where the semilunar line of Douglas crosses the linia alba.

A Case of Sarcoma of the Stomach.—ALESSANDRI (*Mitteilungen aus den Grenzgebieten*, Band 12, Heft 4).—This extremely unusual case was in a man of fifty-six years. The tumor was the size of a baby's head, and was diagnosed as one originating in the spleen. It was removed by resection of a piece of the stomach wall, which was about as large as a dollar. The patient did well for five days, then gradually declined and died on the 13th day of decided cerebral symptoms. A post-mortem failed to clear up the cause of death. Histological examination showed the tumor to be a spindle-celled sarcoma.

Excision of a Broncho-Cutaneous Fistula.—WALTHER (*Bull. et Mem. de la Soc. de Chir. de Paris*, Tome 30, No. 1).—The fistula in question followed a grippe pneumonia with abscess formation. At the operation the fistula was excised, the lung tissue sutured with catgut, and the chest wall with the same material. The skin was closed without drainage, and a perfect union secured. The patient gained rapidly in weight, his cough left him entirely, and when he was presented before the Paris Society he was in every particular a healthy individual.

Catgut Sterilization.—SALKINDSOHN (*Centralblatt fuer Chir.*, No. 3, 1904).—Having found the iodine sterilization of Block to be destructive to the catgut, the author uses a modification of the same which consists in a mixture of one part of tincture of iodine with fifteen parts of 50 per cent. alcohol. He claims that catgut so treated is perfectly sterile at the end of one week, and further that the method has the decided advantage of perfectly preserving the material for at least one year.

Revolver Wounds of the Stomach.—FORGUE and JEANBRAU (*Revue de Chirurgie*, September and November, 1903).—This subject is thoroughly investigated by our authors and the article is illustrated by seventeen cuts which show conclusively that an injury to the stomach, unassociated with a lesion of some other or several other viscera, is almost impossible. He relates a most interesting case. A man was shot from the anterior wall of the stomach, but there was no outlet in the posterior wall. The anterior wound was sutured and the patient did well for a time, when to the surprise of all concerned he suddenly developed a localized peritonitis and died. At the autopsy it was determined that the bullet had remained in the stomach and gradually caused a decubitus and perforation. The case is certainly unique enough to be worthy of a report. The technique of operation in these cases is well given, and thoroughly illustrated. There is also a compend of all of these cases which have been reported in the literature. The article is for the working surgeon one of extreme value.

Intestinal Perforation in Typhoid Fever.—HARTE and ASHHURST (*Annals of Surgery*, January, 1904).—This fifty-page article is probably the most exhaustive and comprehensive thing on the subject which has appeared up to date. The authors have had a most extensive personal experience, and this, coupled with a complete investigation of the literature, has rendered them able to place at our disposal an article which may be truly said to exhaust the subject. They have collected no less than 362 of these cases beside twenty-six others in which an exploratory operation was done. Some of their wise conclusions are the following: (1) that a general anesthetic should be used if the patient's condition permits it at all; (2) the operation must be rapid; (3) the best incision is in the right semilunar line. But the reviewer cannot quite agree with them upon the feasibility of suturing most or all cases. Drainage is necessary in every case.

The Transformation of a Lateral Gastro-Enterostomy Into the "Y" Form.—MONPROFIT (*Archives Provinciales de Chir.*, No. 11, 1903).—In a case afflicted by the secondary currents of vicious-circle the author remedied faulty mechanical conditions by simply cutting the proximal loop of the jejunum and in planting the upper portion into the distal loop below the point of former anastomosis. The idea worked out perfectly well, and the patient recovered his health. The author appends a number of reasons why the "Y" operation of Roux is preferable to all other forms of gastro-enterostomy. However, American surgeons will probably never subscribe to this on account of the technical difficulties and the time consumed in performing this last named operation.

The Anatomy and Pathology of the Biliary Passages and Pancreas.—BUENGNER (*Beitraege Zur. Klin. Chir.*, Band 69, Heft 1).—After examining fifty-eight specimens the author came to several anatomical conclusions: First, the common duct passes through pancreatic tissue in 95 per cent. of all cases. Second, this duct and the pancreatic duct unite in only one or two per cent. of cases. The duct of Wirsung divides in only ten per cent. of cases. Of course these anatomical deductions have a valuable bearing upon many points in clinical surgery.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

Concerning the Technique of Hypodermoclysis.—ADOLF WEBER (*Therap. Monatshefte*, January, 1904, p. 28).—While it may be admitted that the most efficient method of throwing large quantities of saline solution into the circulation is by the intravenous method, and while this method is simple enough when performed during an operation under general anesthesia or in a well-equipped hospital, still both the pain that accompanies the little operation and the surgical skill necessary for performing it in a cleanly fashion have prevented its widespread use in general practice. Wernitz, in an article abstracted in last year's INTERSTATE, advocates the more general use of enteroclysis. After very thoroughly washing out the rectum until the water runs out clear, a liter of normal saline solution is allowed to run slowly into the rectum in the course of an hour. This may be repeated several times daily. While this method has great merits, it requires a good deal of time, and is impossible where we have a relaxed anus or an irritable rectum. The chief drawback to hypodermic transfusion has been that only some 250 c.c. can be thrown under the skin at one spot, so that when we desire to administer several liters of saline solution daily, the patient's body soon becomes covered with puncture wounds. Weber makes an apparently very practical suggestion for the avoidance of this disagreeable feature. He uses a long strong needle attached to a fountain syringe. The apparatus having been filled with warm sterile salt solution, the needle is thrust hori-

zontally below the skin of the abdomen as far as it will go. After 250 c.c. have percolated into the subcutaneous tissue, the needle is nearly withdrawn, and then reinserted at an angle of 90° to its first direction and a second 250 c.c. introduced. This is repeated two more times, so that a litre may be injected with but one puncture.

A New Antitubercle Serum.—ALEXANDER MARMOREK (*Berl. Klin. Wochenschrift*, 1903, No. 48).—From the action upon the organism of tuberculin, Marmorek concludes that it does not represent the real toxin of the tubercle bacilli. When the tuberculin is injected into a consumptive, he believes it stimulates the bacilli to secrete a toxin, and it is this last that produces the reaction. This true tuberculous toxin is, however, not formed in any of the usual cultures of tubercle bacilli. Hitherto the so-called tuberculous anti-sera have been produced by the injection into animals of tuberculin or of other products of tuberculin cultures. They have led to the formation of sera that would neutralize the tuberculin or the other ordinary tubercle bacillus products, but since none of these represent the true tubercle toxin, it is not surprising that their anti-sera have had but little therapeutic value.

In order to obtain cultures that would produce this true toxin outside of the body, Marmorek made use of complicated cultural methods that in the main consist in the growing of young (primitive) tubercle bacilli on a "leucocytic" serum. The latter consists of the serum of calves that have received at least thirty injections of an emulsion of guinea-pig leucocytes. To make it better suited for the cultivation of tubercle bacilli, glycerin-bouillon is added to this serum. The toxin developed in this culture medium immunizes guinea-pigs actively against tuberculosis. When injected into horses, the toxin causes large and painful edemas, but after seven or eight months their serum contains substances that suffice for the preventive immunization of rabbits.

On the basis of these animal experiments Marmorek has during the past year used his serum for the treatment of tuberculous human beings. In meningitis the treatment was of no avail; in other tuberculous processes it seemed as if the result depended rather upon the duration than upon the extent of the morbid process. Without giving any clinical histories, Marmorek states that in advanced pulmonary phthisis, not only the general condition, but also the local process was favorably influenced. Surgical tuberculosis, after having been operated unsuccessfully, was caused to heal, the cheesy pus being absorbed, lymph glands reduced in size and obstinate fistulæ closed. In seven cases of exudative pleurisy, a rapid diminution of the exudate resulted in six cases. As regards the technique of the injections, relatively large amounts of serum are required. Repeated injections too are necessary, the smallest number being six or seven (lymph gland tuberculosis), and the greatest fifty-two. The serum caused no fever, nor any other reaction, local or general. Indeed, in cases without mixed infection it abolished the hectic fever, which therefore forms no contra-indication.

While Marmorek's own clinical observations are few in number, he announces that his serum has been tested by a number of clinicians, who have had encouraging results. The latter are to be published in the near future.

A Case of Aspirin Intoxication.—ERWIN THOMSON (*Therap. Monatshefte*, No. 1, 1904).—Johann Arju, æt. seventeen, came to the writer with a follicular tonsillitis. Having no one to care for him local treatment was not possible. External compresses were ordered and aspirin, gr. v. three times daily. Two days after the patient was found with fever, comatose, pharynx unchanged, eyelids greatly swollen, cheeks red and edematous and covered with yellow bullæ about half an inch in diameter. On opening one of the latter it was found full of clear serum. An indifferent ointment was prescribed for the face and the aspirin discontinued. The patient was not seen again for nearly a month. The face had healed without scars, but the entire scalp excepting the occipital region was bald, although on close observation a fine growth of hair indicated that the baldness would be temporary.

The writer believes that the production of bullæ and of an alopecia must be interpreted as an aspirin intoxication, although the dose, gr. v. (ten powders in three days), was certainly a moderate one. He adds, however, that the youth showed a stunted growth, suggesting an age of twelve rather than of seventeen years. The case shows that aspirin, however indispensable it may have become, should be administered only under the observation of the physician.

The Influence of Sodium Chloride Upon Gastric Digestion.—M. BONNIGER (*Muenchener Med. Wochenschr.*, No. 2, 1904).—That common salt influences gastric digestion has long been known. At first the belief was general that salt increased the acidity of gastric juice, but of late a considerable number of writers have shown the reverse to be the case. There has, however been much diversity of opinion as to how this diminution of acidity took place. Thus, Reichmann believes that it is chiefly due to transudation, whereas Schuele holds that the salt directly affects the secreting cells.

To clear up this question the writer observed the behavior of the gastric juice secreted by a dog with a gastric fistula, according to Pawlow. For the details of the findings the reader must be referred to the original article. In brief, it may be said that the result of the administration of salt was a very marked diminution of the gastric secretion with a corresponding diminution of the HCl secreted. Similar results were obtained with a healthy man: marked subacidity without increase in the total amount of gastric juice. These results disprove the theory of Reichmann, that the subacidity following the administration of common salt is due merely to a dilution of the gastric juice by means of transudation. *A priori* then common salt would seem to be indicated in the treatment of hyperacidity. Whether the ill effects of large doses of salt—interference with gastric motility and with proteid digestion—suffice to counterbalance its good effects in this disease can only be settled by clinical observation.

Some Formulæ for the Palliative Treatment of Hemorrhoids (*Zentralbl. f. d. ges. Therapie*, No. 1, 1094):

1. **R** Opii pur..... 0.06
 Plumb. acerb.,
 Axung. benzoat..... aa 0.2
 Butyr. cacao..... 1.5
 M. f. suppos. D. tal. suppos. No. x.
 S.—One suppository to be inserted morning and evening.
2. **R** Chloroformii..... 2.0
 Vitell. ovi unius,
 Aq. font..... ad 100.0
 M. f. emuls. D. S. As an enema.
3. **R** Bismuth iod. resorcinosulfon..... 0.6
 Zinc. oxide..... 0.5
 Balsam. peruv..... 0.15
 Cereæ alb..... 0.2
 Butyr. cacao..... 1.5
 M. f. suppos. D. tal. suppos. No. x.
 S.—Insert one suppository morning and evening.
4. **R** Mentholi..... 1.0
 Cocain phenyl..... 2.0
 Extr. fluid. secal. cornut.,
 Extr. fluid. hamamel. virgin..... aa 15.0
 M. D. S. Apply locally.
5. **R** Alphaeucaini..... 0.03
 Morph. mur..... 0.01
 Antipyrini..... 0.5
 Aq. destill..... 20.0
 M. D. S. Inject into the rectum.
6. **R** Extr. secal. cornut..... 0.2
 Morph. mur..... 0.01
 Butyr. cacao..... 1.5
 M. f. suppos. D. tal. suppos. No. x.
 S.—Insert one suppository morning and evening.
7. **R** Alumin. borotannic..... 5.0
 Liqu. plumb. subacet..... 1.0
 Ol. olivæ..... 2.0
 Lanolini..... 40.0
 D. S. Pile salve.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Phthisiogenesis and Fight Against Tuberculosis.—E. V. BEHRING (*Deutsch. Medic. Woch.*, 1904, No. 6).

The Principles of Phthisiogenesis in Man and Animal.—E. V. BEHRING (*Berl. Klin. Woch.*, 1904, No. 4).

These two papers contain in a more extensive and elaborate way the points brought out by the author in his lecture given at Cassel. These points have been reviewed in this journal, so it will be unnecessary to enter into any details at this time. When Behring's views are pronounced correct,—for instance that inhalation tuberculosis does not exist; that the primary infection almost always occurs during infancy—that then our conceptions on tuberculosis must be altogether remodeled, has already been said. The only question to be considered as to Behring's pronouncement is what right, scientifically and experimentally, can be claimed to make them public and to bring to a standstill work that we believe has already brought immense benefit and progress in dealing with tuberculosis. If we glance at the principles (the *Leitsätze*) of the author, we find forty-one of them, every one being essential and of intrinsic weight, if true. As almost all of them directly and harshly contradict the opinions so far held and corroborated by, what we think, scientific and reliable observations, we must naturally inquire where is the proof that we have been wrong and that Behring alone is right? The one question of the identity of human and bovine tuberculosis is treated here as perfectly settled, while all over the world numberless observers are busily trying to bring evidence for the one or the other side. The only statistics so far to be considered scientifically, have shown that with increasing age the percentage of tuberculous infections increases, that children up to ten years of age give a very low percentage and not in comparison with that of higher ages. To find tuberculous foci in infants up to one year who have died from other causes is, in truth, a rarity. Behring's assertion that invading tubercle bacilli can remain latent for a long time, and that infantile tissues are comparatively immune to them, is simply an assertion absolutely contradicted by the rare cases in which an early infection occurs and startles us by the enormously large extent of the lesions and their rapid development. In this country the statement that has lately been advanced in favor of Behring's view (Warthin, in *Jour. of Infectious Diseases*, Vol. I, No. 1), that the tubercle bacilli can be found in the fetal tissues without any cellular reaction, means nothing, since we know nothing about the time when they have reached them. That the fetal intestine of animals is easily permeated by bacteria is true, but have not many observations shown that the same obtains for adult animals, as only lately the experiments of Ravenel have demonstrated? Certainly tubercle bacilli may penetrate the tissues at any time, but they will cause lesions, palpable and visible, and in infants we see this but exceedingly rarely. Every infant

dying ought to show tuberculous lesions, intestinal, lymphatic or pulmonary, if during infancy it was exposed to infection, either by milk or from other sources. If the danger from the bovine bacilli of the milk be as great as Behring maintains, we would find this condition. That there is given sometimes the necessary condition for infection has been shown by Kossel and Schuetz; and even Koch has never pronounced the absolute innocuity of bovine bacilli. That they are not the prime factors of human tuberculosis even our American observers, at first so enthusiastic, begin to see.

These remarks show, at least, that so far the discussion about these points is not closed except for Behring's statement, nor even advanced to a stage in which a final decision could in a short time be expected. Behring expresses himself as if by his investigations he had brought about this decision, but in vain we look for the evidence. Assertions, even by a man like Behring, are not accepted in questions as vital and fundamental as tuberculosis without the necessary experimental and scientific guaranty. If we read over Behring's publications the idea takes hold of us that he must be a man able to accomplish in a few years as much as hundreds and thousands equally able men could do in their whole lives. There are hundreds of important problems touched upon that in the author's mind are explained and elucidated by him. His explanations are very original and ingenious, but we cannot take his word simply for believing that his ingenuity has not gone astray. To this class of problems belongs also his relation of the changes occurring in milk after secretion, a relation that reads like a novel, enthralling and fascinating. All this does not mean that in the end Behring will not prove all of his far-reaching deductions. So far, however, the scientific world hesitates to accept them because of the absence of the necessary basis. It would be a great calamity if without criticism and control these views were accepted, as it is a pity that they have been thrown broadcast into the lay world.

The prospects that Behring gives for the future are reliable milk and to a degree sanitation, further, immunization by antitoxic substances. Here, again, an absolute lack of evidence of the existence of such antitoxic substances must be noted, even an absolute absence of knowledge about the real toxic substance in the tuberculous process. The only thing that positively forms an advance of our general information, is that Behring openly advocates the preservation (or rather intactness) of milk by the addition of formalin, a point about which much worthless and aprioristic discussion and experimentation has been wasted.

The Relation of Anthrax Bacilli to Endothelial Cells in Mice and Guinea-Pigs.—BEHRING (*Muench. Deutsche Med. Woch.*, 1904, No. 1).—An anomalous staining reaction of the heart endothelium towards Ehrlich's methyleneblue eosin solution was observed by the authors in animals dead from anthrax. They found the cytoplasm of these cells stained red, the more pronounced the longer the infection had existed. This reaction is explained by a specific action of the anthrax bacilli; it is mostly accompanied by a copious number of bacilli either attached to the cells or lying within them. An active penetration of the bacillus into the cells is assumed, not a mere phagocytosis. As a fact, a greater

number of the bacilli were found on these endothelia (heart and vessels) than in the blood itself. These close relations of the anthrax bacillus to endothelium can be found in places other than the circulatory apparatus, as, for instance, in the peritoneal cavity of guinea pigs into which the bacilli have been injected. The exudate shows numerous endothelial cells with this oxyphile degeneration and masses of bacteria. The conclusions of Behring are as follows: The substance antagonistic to the toxin of the anthrax bacilli is to be found in the endothelia. It is very likely that the contact of the toxin present in the living bacilli with the anti-body in the endothelia is brought about by a colloidal state of solution of this anti-body in the intravascular and intracellular fluids.

On the Cultivation of Trypanosoma Brucei.—F. G. NOVY and WARD J. MCNEAL (*The Journ. of Infectious Dis.*, Vol. I, No. 1).—The paper is mentioned because it is the second protozoon that by the authors' efforts has given up his reluctance against the artificial life in pure cultures. The obtaining of pure cultures of trypanosoma *Lewisii* by the same men, was reported in this journal before. This time they have succeeded in cultivating the parasite of the fearful tsetse—disease of cattle or nagana, that in many areas of Africa makes cultivation and civilization impossible. The importance of this discovery lies mainly in the fact that by it the thorough investigation of the disease is possible and means may be found to act on it in a curative or prophylactic way. The cultures are made by inoculating the diseased blood in agar mixed with two or three times its amount of fresh rabbit's blood. They have so far been propagated through eight generations and have proved to retain almost fully their original virulence. The causal relationship of this trypanosoma *Brucei* to nagana has thus been finally established. It cannot be said what influence this discovery will have on a disease of the human race, also caused by such a flagellate (*tryp. gambiense*), the sleeping sickness.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

The Deportation of Chorionic Villi and its Consequences.—J. VEIT (*Zentralblatt fuer Gynaek.*, No. 1, 1904).—The clinical significance of the interesting phenomenon of deportation of chorionic villi into the maternal system during pregnancy, for the last few years has been the subject of much fruitful study. Veit, the originator of this theory, in this paper presents a concise and complete *resume* of all the various hypotheses that have been based upon his observations, carefully differentiating between those that are still under discussion and those that are generally accepted at the present day.

The fact that during pregnancy chorionic villi are torn off and carried into the circulatory system of the mother is well established. The

simple mechanical effect of this occurrence is manifold. Thromboses form in the serotinal veins. On account of numerous anastomoses existing between veins of the deeper layers of the serotina, disturbances of practical importance, however, do not result. The intervillous spaces become enlarged. Chorionic villi entering into serotinal veins transform them into intervillous spaces, a fact that has been convincingly shown on pregnant tubes (however, not yet on the pregnant uterus). In serial sections of placental polypi, centrally situated maternal veins have been found filled with living villi. It would seem that deportation of villi into veins of the decidua is a frequent cause for the formation of placental polypi. Abnormally firm adherence of the placenta and the development of a *placenta disseminata* is explained by the fact that under certain conditions chorionic villi are carried through serotinal veins into veins within the uterine wall. The deportation of villi plays an important role in the premature separation of the normally-implanted placenta. Clogging with villi of either the *sinus circularis* or the vein carrying the blood from the *cotyledo*, leads to a rupture of the vein, causing a hemorrhage between placenta and serotina. Sudden hemorrhage of a very severe character in cases of rupture of a pregnant tube may be due to the rupture of veins clogged with deported villi. Veit suggests that the same phenomenon in an analogous manner may be of importance in the etiology of the spontaneous rupture of the pregnant uterus. Of eminent practical interest is the deportation of villi in cases of hydatidiform mole and malignant chorio-epithelioma. In Veit's opinion, many cases of so-called "destructive" hydatidiform mole can be explained simply upon the theory of deportation. The epithelial cover of the deported villi sometimes shows signs of an atypical proliferation, as it is seen on cystic degenerated villi within the uterus. But although this new-formed tissue often exactly resembles chorio-epithelioma, and would seem to be malignant in its microscopical features, clinically it is benign. This peculiar fact is, in the writer's opinion, easily explained by the now almost generally accepted observation, that even after the death of the fetus the enveloping membranes of the ovum may continue to grow and to functionate. The following interesting theory of the formation of the hydatidiform mole is suggested: The fetus is dead, the cover of the villus continues to functionate—even grows. Fluids are resorbed as usual from the maternal blood, but on their way to the interior of the ovum they cannot pass through the dying connective tissue of the villus. They are retained there, and cause the transformation of the villus into a cyst. Nodules in the paravaginal tissue containing chorionic villi, which show the microscopical picture of malignancy, are not necessarily metastases of a chorio-epithelioma or of a "destructive" hydatidiform mole. The claim of various writers that deported *normal* chorionic villi may undergo malignant degeneration in their new location is, in the author's opinion, not yet positively established.

Another feature of practical importance is the possibility of dissemination of germs with the deported villi. Numerous hypotheses have been advanced based upon Ehrlich's side-chain theory. It is very probable that cytolytins or syncytiolytins are formed by the action of the maternal blood serum upon the deported villi. By means of animal

experimentation the fact has been established that the injection of chorionic tissue will produce albuminuria—even cause the death of the animal. The view is gaining ground that the kidney of pregnancy, and especially eclampsia, are due to these syncytiolysins, and only of late a writer tries to prove his contention that hyperemesis gravidarum is produced by these same toxins. Veit refers to the attempts of Opitz and Weichardt to produce, in conformity with this new conception of the etiology of eclampsia, a serum for the treatment of this disease. He is very skeptical concerning the success of their efforts.

Appendicitis in its Relation to Pelvic Inflammation.—J. M. BALDY (*Medical Record*, January 9, 1904).—The writer appreciates the reasons of the class of surgeons who remove the vermiform appendix as a routine practice, as a prophylactic measure, although he does not agree with them. He is, however, unable to follow the reasoning of that class who adopted the practice of removal on the ground that the condition of adhesion implied appendicitis or future danger of the disease. Ninety-five per cent. of the mixed class in origin were cases of pelvic inflammatory disease, and the adhesion of the vermiform appendix was a mere coincidence due to inflammation of contiguous serous surfaces, as was so commonly the case of adhesions of the intestines in pelvic inflammatory diseases. His experience has led him to differ with those writers who held that appendicitis generated pelvic inflammatory disease, or that pelvic inflammations cause appendicitis. The two diseases were rarely associated, and then only as a coincidence. He is firmly of the opinion that the one never causes the other. In all his experience he had never seen a single case in which, having found pus in a Fallopian tube, pus was present in the involved vermiform appendix; nor has he ever found a perforated or gangrenous appendix in such a case. On the other hand, where he has found a perforated or gangrenous appendix, or one which contained pus, he has never noticed pus in a Fallopian tube or ovary.

Myomectomy of the Gravid Uterus.—R. CONDAMIRE (*Lyon Medical*, January 17, 1904; rev. *Medical Record*, February 13, 1904).—The writer thinks that myomectomy is especially indicated in the pregnant uterus when the symptoms are extremely painful and persistent, and when the situation of the fibroma would prevent a normal delivery. The risk of abortion should be avoided by operating at the earliest possible moment and removing the threatening tumor. The operation is indicated when the presence of the fibroma has caused one or more abortions. Without consideration of pregnancy the operation is indicated in a woman under thirty-eight or forty, who wants to preserve her child-bearing function. The author thinks that myomectomy, which is an especially conservative operation, has lost ground, while of late years the technique and with it the results of hysterectomy have evidently been improved. He does not think, however, that there is any occasion for comparing myomectomy and hysterectomy in reference to a gravid uterus. Myomectomy is indicated under certain conditions, and when these do not exist, total removal should be chosen for a fibromatous uterus.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Antiseptic Treatment of Pneumonia in Children.—DESSAU (*Med. Record*, February 13, 1904) calls attention to the view which has been repeatedly expressed of late that both lobar and lobular pneumonia are due to the action of the same specific germ in different degrees of virulence. It is held, according to this view, that broncho-pneumonia is in reality not secondary but a primary infectious process, just as lobar pneumonia is.

If we grant that both forms of pneumonia are self-limited, infectious processes, it is irrational, according to Dessau, to be satisfied with a merely expectant plan of treatment. He believes that we should, logically, adopt the principles of antiseptic therapeutics.

In the author's experience, carbolic acid, internally, has met the indications very well. To a child of three years he gives one drachm of a two per cent. solution every two hours, using cold compresses locally.

Even albuminuria is no contraindication to the use of carbolic acid internally. All authors have called attention to the importance of keeping the digestive functions of the child in good condition during pneumonia. Abdominal tympany is particularly to be avoided if possible, owing to the embarrassment of respiration induced by it. Carbolic acid appears to control undue fermentation of the gastric contents, and is thus indirectly an aid in maintaining a more normal condition of digestion.

In addition to the carbolic acid, hydrotherapeutic measures are ordinarily used by the author in the treatment of lobar or lobular pneumonia, and if cough is very distressing, five or ten drops of paregoric are given at bedtime.

Other therapeutic measures are, in the author's judgment, not necessary, and this line of treatment has given him excellent results.

Lobar and Broncho-Pneumonia in Infants and Children.—A symposium was held on this subject at the New York Academy recently which brought out some points of interest. (*Archives of Pediatrics*, February, 1904.)

Pathology.—According to Bovaird, there are no striking differences in the pathology of lobar pneumonia in early and later life. Partial consolidation of one lobe is more common in children than in adults. The most important associated lesions are found in the pericardium, peritoneum and meninges. Broncho-pneumonia occurs in about 40 per cent. of all autopsies at the New York Foundling Hospital. Empyema is a frequent complication of this form, far more common than in adults. In about 95 per cent. of the lobar and 50 per cent. of the lobular pneumonias, the pneumococcus is the infecting agent. The tendency now is to give more importance to the general infection and less to the local lesion.

Symptomatology and Diagnosis.—Northrup says that the onset of the disease is abrupt, with vomiting, drowsiness, pallor and loss of appe-

tite. Fever comes on rapidly, and the pulse respiration ratio is changed to approximately one to three. This fact alone should always lead the physician to search for a lesion in the lungs. A little later there is diminished respiratory murmur over the affected lung and successively, harsh breathing, bronchial voice, bronchial breathing and bronchial whiff. Cough is not constant. The degree of toxemia is, as a rule, proportionate to the amount of lung involved. The stupor is often so profound as to lead to the suspicion of some cerebral lesion, especially as there is often some stiffness of the neck muscles, but in pneumonia there is also resistance in both shoulders and arms and disturbance of the pulse respiration ratio. The presence of mucous diarrhea may, at times, obscure the diagnosis. In early life, cases of pneumonia may resemble appendicitis.

Treatment.—Confining himself to lobar pneumonia, Winters said that almost every case in early life would terminate in recovery whether treated or not. Hence the treatment should be such as will disturb the patient as little as possible. Warmth is important, because cold skin means contracted cutaneous vessels, and this means increased congestion of the pulmonary vessels. He objects to the external application of cold to the body, because this results in a rise of the internal temperature, and because it causes intense nervous excitement and unnecessary resistance. To quiet nervous excitement, nothing is better than the old-fashioned Dover's powder, made with sulphate of potassium. Aconite is urgently indicated in the early stage; and to further stimulate diaphoresis, twenty drops of the sweet spirit of niter should be given every hour to an infant of one year. Food should be reduced in quantity and water should be given freely. As a rule alcohol is to be avoided, but when required, as at the crisis, it should be given in fairly large doses by the rectum. Oxygen is of decided value, but it must be given continuously.

In the discussion, Freeman said that too much stress should not be laid on the physical signs, because they are often very obscure and the diagnosis must be made on the vital signs and the symptoms. The main points in the treatment are to keep the gastro-intestinal tract and the heart in good condition. He considered alcohol of value in the later stages, and believed in the use of oxygen if drugs could not be given.

Kerley said that, unlike Dr. Winters, he finds the external application of cold in the form of cold packs to be of great value. The legs and arms should be kept free, and the temperature of the water suited to the individual case. In broncho-pneumonia he finds the application of mustard paste (one part of mustard to two parts of flour) applied to the skin at intervals of four hours, until it is thoroughly reddened, and the use of steam inhalations to be of great value.

Koplik insisted on the danger of cold to very young children, to which they do not react well. He considered steam inhalations of doubtful value because they exclude fresh air and load the atmosphere with moist vapor.

Carr emphasized the importance of distinguishing between lobar and broncho-pneumonia, since the former requires almost no treatment, while the latter often demands active medicinal measures.

The Diagnosis of Measles.—VARIOT (*Gaz. des Hop.*, January 14, 1904), while recognizing the ease with which the diagnosis of measles can be made in the typical cases, calls attention to the difficulties that are often encountered. For instance, he notes that influenza may easily be mistaken for measles until the characteristic eruption appears. He believes that the exanthem of measles (a diffuse redness of the buccal and pharyngeal mucosa) can be seen almost constantly a day before the appearance of the eruption, but he thinks that Koplik's spots are only very rarely to be seen. He adds that this is the consensus of opinion of his colleagues also.

The parotid region should always be examined very carefully when looking for the eruption, because the rash can be seen here very early.

In discussing abnormal types of eruption the author calls attention to a confluent form, which resembles scarlet very closely. In such cases the examination of the mouth is often of great value, because of the characteristic appearance there in the two diseases.

In the differential diagnosis between measles and roetheln, stress is laid on the absence of severe constitutional symptoms in the latter affection and upon the presence, in roetheln, of a general adenopathy of the axillary, cervical and inguinal glands, which is wanting in measles.

Erythemata of gastro-intestinal origin are never accompanied by the mouth exanthem. Drug eruptions are at times very confusing, but the history of drug-taking and the absence of the usual premonitory symptoms will usually clear the diagnosis. More difficulty is at times caused by serum eruptions after antitoxin. According to Variot, these rashes frequently resemble measles and in at least one-third of the cases are accompanied by more or less fever. Inasmuch as the two diseases are at times coincident, a certain difficulty in diagnosis can thus arise.

While the true hemorrhagic form of measles is very rare, the co-called purpuric form is not, nor is it in and of itself especially grave.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Cytological Examination of the Cerebro-Spinal Fluid for Diagnostic Purposes.—MEYER (*Berl. Klin. Woch.*, No. 5, 1904).—The relation of the cellular contents of the cerebro-spinal fluid to the diagnosis of diseases of the nervous system is the subject of this paper. Thirty-five cases were examined for this purpose with the following results: In fourteen cases, eleven of which were undoubtedly dementia paralytica or tabes, there was a marked lymphocytosis. In four cases, chronic alcoholism, multiple sclerosis and katononia, there was a leucocytosis. In the remaining seventeen cases, mainly of so-called functional diseases, a lymphocytosis was in no case present. The results here noted are in full accord with those of the French writers, namely: In almost all cases where there is a probability that there is present an organic condi-

tion combined with a chronic irritation of the meninges, a lymphocytosis will be found in the cerebro-spinal fluid.

Report of a Case of Brain Tumor Involving the Right Lateral Ventricle.—LESZYNSKY (*Medical Record*, January 30, 1904).—On account of the rarity of the localization of this brain tumor, the case merits abstracting. Resume of the case: Girl, nineteen years, no trauma or history of infection. is attacked by severe headache. Vomiting and vertigo, with blindness. These symptoms are progressive and constant, with the addition of astereognosis of the left hand, slight left hemiparesis, with hyperesthesia and convulsive attacks, limited to the face for several months, afterwards becoming general. An exploratory operation was made, but no definite evidence of tumor was found in the field of operation, which was over the fissure of Rolando, laid bare by a flap $3\frac{1}{2}$ by $3\frac{1}{2}$ inches. At the autopsy a tumor was found beneath the parietal portion of the right ventricle. The tumor was about the size of an egg. The tumor was in all probability a glioma, though no gliomatous cells could be demonstrated.

Case of Pneumococcal Meningitis and Some Records of the Value of the Cytological Examination in Cases of Meningitis.—WARRINGTON (*Review of Neurology and Psychiatry*).—An account of ten cases of meningitis due to different causes, in which the diagnosis was made or substantiated by the examination of the cerebro-spinal fluid. In two of the cases here described the diagnosis could be made in spite of the absence of Kernig's sign. The author has found the formula to be true, as noted by previous investigators, namely, that in acute non-tubercular meningitis a leucocytosis is found, while in tubercular disease a lymphocytosis. The author is in agreement with the conclusion of Campbell, that a positive cytological result from the examination of the cerebro-spinal fluid is the most valuable single objective symptom we are acquainted with.

On the Ætiology and Pathology of Tabes, Especially Its Relation to Syphilis.—LESSER (*Berl. Klin. Woch.*, No. 4, 1904).—A dermatologist's views on this question are always of interest, and especially so when the data presented throw considerably new light on the disputed points. It must not be forgotten that it is due to a dermatologist that the syphilitic origin of tabes was first brought out in the remarkable work of Fournier. The author of this paper sets himself the task of finding a more certain proof of the relation of tabes and syphilis than the statistical data derived from the history of specific infection, as noted by the patient. The following lines of inquiry are suggested: (1) The determination of the per cent. of tabetic post-mortems in which there are evidences of a previous syphilis. (2) The determination of the per cent. of the anatomical evidences of syphilis in all over thirty-five years old. In ninety-six cases of tabes, twenty-seven showed evidences, anatomical in nature, of syphilis. In all individuals over thirty-five years old evidences of syphilis were found in only 9.5 per cent., as against 28 per cent. in the former series. In order to divide the manifestations of syphilis into convenient types, and in order to give an adequate basis for a pathological classification, the author divides the syphilitic mani-

festations into three divisions, as follows: (1) Papular inflammations. (2) Gummous inflammations, which includes tertiary manifestations, such as gummata of the skin, liver, etc. (3) Interstitial inflammation, including fibrous orchitis, the syphilitic lobed liver, etc. The histological changes in tabes consists in a parenchymatous degeneration of the nervous elements in the posterior columns of the cord and increase in the connective tissue of the spinal cord the so-called neuroglia. All other changes are inconstant and of secondary importance. The fact that tabes is essentially an interstitial process directly dependent upon syphilis brings the problem of its origin within the confines of actual demonstration and of analogy with the late syphilitic process of the same nature. The various objections which have been advanced against this assumption are taken up in detail in the following manner. First objection: Mercury and the iodides are without any therapeutic result in tabes, while in syphilitic processes they act as a specific. This objection is met with the statement that tabes is not a tertiary manifestation, but is a manifestation of the same class as an interstitial syphilitic process, and that these do not react to antisypilitic treatment. Second objection: In most cases of tabes there are no evidences on the skin or in the internal organs of syphilitic lesions co-existing with the tabes, and that it is the most severe cases of syphilitic infection which are not followed by tabes. This objection is met in this way. It is assumed that the cause of syphilis is an organism. The virulency of this organism, or, rather, the severity of the lesions it produces, is directly connected with the character of the histological nature of the tissue change which follows. A severe infection means one in which the virulence is so great that the interstitial changes are not produced, but the more acute parenchymatous affection. As tabes is essentially a lesion produced by an attenuated virus, the tabetic changes do not follow this sort of an affection. Third objection: That in relation to the prevalence of syphilis, tabes is found too seldom. This seems to be a very easily answered objection. It is suggested that the question be asked not how many tabetics are syphilitic, but how many syphilitics are tabetic. This is further an invalid objection, because, if tabes is regarded as a form of interstitial syphilitic inflammation, the number of cases in proportion to the number of infections is of no particular importance as far as the main question is concerned. Fourth objection: Tabetics can become reinfected with syphilis. This objection is answered by the well known fact that there is nothing that is contradictory in the reinfection of a syphilitic. There are a number of such cases reported. The author brings out the interesting fact that all the cases of infantile tabes thus far reported have been among patients with inherited syphilis. The author closes his paper with this resume of his theory: If tabes is a direct syphilitic, a quartan syphilitic disease, and is caused by the syphilitic virus in the same way as orchitis, fibrosa and the syphilitically-lobed liver, and aneurism, and the smooth atrophy of the tongue, then, in the prognosis of any syphilis, the possibility of tabes and dementia paralytica must be always considered. The assumption of a quartan type of syphilis simplifies and renders unnecessary many hypotheses and premises.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. MCC. JOHNSON, M. D.

Tuberculosis of the Urinary System in Women—Report of Thirty-five Cases.—HUNNER (*Johns Hopkins Hosp. Bul.*, January, 1904).—The author warns against ureteral catheterization of the healthy side in renal tuberculosis, quoting a case in which there is some doubt as to whether infection was not carried by the catheter. He reports thirty-five cases, all treated surgically, that is by nephrectomy combined with removal of a part or the whole ureter, in three cases a nephro-uretero-cystectomy being done. As a result, twenty-two of the thirty-five cases may be placed in the good health class. He finds that urinary tuberculosis in women is a disease of early life. While it is usually primary in the kidney, yet about half of the patients first complain of bladder symptoms. It is confined to one side in the vast majority of cases. If involving both sides a very painstaking examination must be made of the separate urines to determine whether the treatment should be surgical or medical. The disease should be kept in mind in dealing with any symptoms referable to the urinary tract; even such common occurrences as a supposed movable kidney or incontinence of urine should be carefully investigated. Appendicitis and gall-stone colic must be differentiated. Any obscure or a typical case of supposed malaria or typhoid fever should remind one of this disease.

The disease is compatible with a long life of comparative health, and macroscopical and microscopical examination of our specimens shows that in some cases there is a tendency to spontaneous healing; but in spite of these two facts a careful study of these thirty-five cases shows the disease to be pre-eminently surgical.

The Use of Formaldehyde as a Preservative in Urine.—KENNEY (*N. Y. and Phil. Med. J.*, February 27, 1904).—Having a reaction, upon applying Heller's test, analogous to that of albumen in a specimen of urine preserved with 40 per cent. formaldehyde from a patient whose urine afterwards contained no albumen. Kenney undertook investigations in regard to the effect 40 per cent. formaldehyde had upon urine when added to it as a preservative, with the following conclusions:

1. Formaldehyde as an artificial ingredient of the urine will lead to deceptive results in uranalysis by (a) making the urine appear albuminous when it is negative; (b) not giving a typical reaction when albumin is present.

2. The reliability of Introna's test, namely, the use of formaldehyde in albuminous urine as a reagent, is to be questioned, inasmuch as the effect of formaldehyde on negative urine is the same, though to a more marked degree, as that on albumin in solution, the difference in the color and density of the precipitate being immaterial.

3. As a factor in the production of a possible pseudo-albuminuria, the therapeutic use of urotropine is a subject well worthy of extended observation and study.

Some Conclusions Based on a Study of One Hundred and Thirty-four Cases of Calculus in the Ureter, with Report of Three New Cases.—TENNEY (*Bost. Med. and Surg. Jour.*, February 4, 1904).—Intermittent pain on one side, with varying amounts of red blood in the urine, are constant symptoms of stone in the ureter.

Though the best means of locating stones, the x-ray cannot give evidence *sufficient in itself* to warrant us in operating or refusing to operate on certain cases. If a calculus starts from kidney to bladder, it is likely to catch within an inch of one of three places, all of which are accessible to the surgeon through extraperitoneal openings.

A single calculus is the rule, but exception occurs, according to these cases, about once in eight times.

The opening in the ureter or kidney pelvis for removal of the calculus should be sutured if possible. Both sorts of suture materials have been used with equally good results, and wounds in both locations apparently heal equally well. The recovery is only delayed if sutures are not used.

A calculus in the ureter is a menace not only to health but to life, and its removal is an operation of low mortality, provided it is undertaken before secondary changes appear in the kidneys.

The Conservative Treatment of Some Surgical Diseases of the Renal Pelvis and the Ureter by the Ureter-Cystoscope.—KREISSL (*N. Y. and Phil. Med. J.*, February 13, 1904).—From an extended use of the ureter-catheter-cystoscope for topical applications in the upper urinary tract the author has come to the conclusion that the efficiency of the cystoscope as a therapeutic means has been grossly exaggerated, although it cannot be denied that, when judiciously employed, it has its useful, but very limited, sphere. The frequent passing of a ureter-catheter is of itself a factor of considerable disturbance to the ureter; besides, various abnormal conditions along the route the catheter has to traverse, limits its use. In order to prevent the trauma from repeated catheterizations, the author in some conditions, as stubborn mild chronic pyelitis, leaves the catheter in the ureter for at least a week at a time.

The presence of a properly placed catheter in the upper urinary ways is absolutely harmless, even if maintained for several weeks. Hydro-nephrosis and renal retentions may be temporarily relieved by the catheter *a demeure*. The successful treatment of ureteral strictures by dilation has not materialized. Brilliant results may be obtained by lavage of the renal pelvis, when gravel has accumulated therein. A very small proportion of calculi impacted in the ureter is amenable to a conservative procedure. The method of treating certain forms of renal and ureteral fistula by draining the urine directly from the renal pelvis through a ureter catheter, thus obviating tedious and oftentimes dangerous secondary operations, is not generally known. So, too, fistula following various operations on the ureter and renal pelvis will be rarely observed if a catheter is left in the renal pelvis and ureter for the first three days after the operation.

Solitary, or Fused, Kidney, with Report of a Case.—DENNIS (*N. Y. Med. Jour.*, January 30, 1904).—The author gives the following summary:

1. According to available statistics, complete absence or extreme atro-

phy of one kidney is found once in 2,650 cases; horseshoe kidney once in 1,000 cases; and the fused kidney, exclusive of the horseshoe variety, once in about 16,000 cases.

2. The great majority of fused kidneys are misplaced, being usually in the median line and lower than normal.

3. The completely fused kidney, with normal position and approximately normal outline, is the rarest form of all.

4. Cystoscopic examination, with catheterization of the ureters, will prevent the error of removing the only organ present in all cases, except those of fusion.

5. Horseshoe and irregularly fused kidneys may be recognized on exposure by their abnormal shape or position, or by both.

6. The single remaining and rarest variety, that with normal outline and position, can probably always be at least suspected and left, if the ureter and pelvis are found shifted to the anterior surface.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Scarlatinal Panotitis; Exfoliation of a Portion of the Labyrinth; Radical Operation.—DR. CARL KOLLER (*Med. Record*, January 30, 1904) describes an interesting case of scarlatinal panotitis as follows: The patient, a girl of four years, was taken ill with vomiting and fever. On the second day a scarlatinal eruption appeared, followed two days later by the appearance of a diphtheritic membrane in the throat and swelling of the glands. At the end of the first week the child complained of pain and deafness, which were soon followed by a discharge from both ears and absolute deafness within twenty-four hours of the appearance of first ear symptoms. There was suppuration of the submaxillary gland on the left side. The family physician continued to treat the case without consultation. About a month later the submaxillary and cervical glands being swollen and painful and both ears discharging, the patient was admitted to the hospital. Examination showed large perforation of the drum on both sides and granulations in the middle ear. Panotitis with necrosis of the labyrinth was diagnosed. A radical operation was performed, the cavities of the middle ear being thoroughly exposed. Pus and granulations filled the attic and antrum; the ossicles were found disarticulated and imbedded in the granulations. From the middle wall of the attic a loose, shell-like sequestrum was detached which proved to be a part of the labyrinth. The facial nerve was exposed in removing another piece of necrotic bone, and whenever touched caused the muscles to twitch. The bone cavity was smoothed with the electric burr and tamponed with iodoform gauze; the opening behind the ear was left patulous. The patient made an uneventful recovery and after two weeks the wound behind the ear was closed. The hope of a partial restitution of hearing has not been realized.

Methods of Controlling Hemorrhage of the Oral Cavity.—DR. H. E. BELDEN (*Jour. Am. Med. Assn.*, February 13, 1904) cites several methods for controlling hemorrhage of the oral cavity. The author believes the physician should impress upon the patient his ability to control hemorrhage, and thus prevent fatal bleeding as a result of vasomotor paralysis. From a dental standpoint hemorrhage often occurs after extracting a tooth as the result of the dental artery becoming entangled in the ragged edges of the alveolus and its mouth being held open. A drill run into the cavity would disentangle the artery and stop the bleeding.

Among the mechanical methods for stopping hemorrhage are: plugging or tamponing, compression, ligating the artery, torsion, suturing, etc. It is recommended that systemic remedies be administered before operations on those cases presenting a hemorrhagic diathesis. Calcium chloride, eight to sixteen grains every two to four hours for three days or more, is said to increase the coagulability of the blood. Albumen in the form of whites of eggs three times daily, or gelatine in doses of 100 to 400 grains daily, and continued indefinitely when Bright's disease is not present, are mentioned. Locally, adrenalin is recommended as the most powerful astringent and hemostat known. It stimulates the heart and is non-irritating, non-poisonous and not cumulative, and is an invaluable remedy in carrying out bloodless operations in nose and throat work.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Dermatites Pyemiques.—A. LEBET (*Annales de Derm. et de Syph.*, December, 1903).—In general pyo-septicemic infections there often occurs dermatoses caused by the infective organism, staphylococci or streptococci, which are transported to the skin through the blood stream in the form of metastatic pyemic dermatoses. These eruptions may be multiform, pustular, purpuric or varioloform. The bacteria form the metastases in the capillaries of the papillæ, in the derma, or, in the subcutaneous tissue; in the latter case the localization is preferably in the veins.

In the cases cited from literature by M. Lebet, namely: diphtheria, acute nephritis, phlegmon, pyemia, intestinal catarrh, bronchitis, endocarditis, abscess of the ear, meningo-encephalitis, all these conditions have been complicated by metastatic dermal eruption in which the staphylococcus or streptococcus have been found histologically.

Protozoa in a Case of Tropical Ulcer ("Aleppo Boil").—J. H. WRIGHT, M. D. (*Jour. Cutaneous Dis.*, January, 1904).—Tropical ulcer has considerable clinical resemblance to the lesions of tuberculosis and syphilis. The disease is endemic to tropical countries and lasts for a year or longer. Mosquitoes and other insects may be the carriers of the infection. Sev-

eral kinds of organisms have been found in the lesions, but the result of only three observers the writer thinks is worthy of consideration: Cunningham found an organism which he considered a mycetozoa; Firth confirmed Cunningham's observation; also Riehl.

In the histologic examination of the reported case Wright found bodies which presented the following characteristics: they are generally round, sharply defined and two or more mm. in diameter. These bodies are in large numbers in the smears, often occurring in aggregation associated with a large nucleus, thus suggesting that they have been contained in a large cell whose outlines have disappeared in the process of fixing and staining. The general morphology of those bodies and their position in cells seems to justify the belief that they are micro-organisms and are the infectious cause of the lesion. The author considers them protozoa, and their small size and great number in the cell suggests that they are microsporidia. The name *helcosoma tropicum* is suggested as a name for the organism.

Vitiligo Treated with Finsen Light.—DOUGLAS W. MONTGOMERY, M. D. (*Jour. Cutaneous Dis.*, January, 1904).—The patient was a man nineteen years of age. He had had vitiligo for five years and had patches over the whole of the cutaneous surface. After medical treatment without improvement the Finsen light was tried on account of its well-known stimulating effect on the skin in general and especially on the pigment. The spots exposed to view on the face and hands were treated. The patient had nine sittings and at each sitting the light was applied to a given spot until a good reaction was obtained. The skin was well reddened as in sunburn. Some spots improved at once, others more slowly. There were five applications to each spot treated. Five months later the patient wrote saying that all the spots on the hands and face had disappeared.

The Clinical and Pathological Characters of the "Veld Sore" Prevalent Amongst the Troops in South Africa.—N. BISHOP HARMAN (*British Jour. of Derm.*, January, 1904).—The *Jour. of Path. and Bact.*, August, 1903, first published this paper of Dr. Harman which is given almost in full by the *British Journal of Derm.* The sore as usually seen is a superficial ulcer, edged by a fringe of exfoliating epithelium and an area of inflammatory redness. The intractable nature of the sore is characteristic. It begins as a small blister or group of blisters, that break and leave a superficial ulcer which will not heal and exudes pus for months. It may scab over, but does not cicatrise. No general symptoms supervene unless the sore becomes badly infected from secondary sources. Abrasions or bites of flies is the common mode of origin. In treating the sore it is necessary to remove the scab and the epidermis for a considerable area beyond the sore. The sore should be very thoroughly curetted and dusted with calomel, and unless all diseased tissue is removed it will not heal. In the bacteriological study Dr. Harman isolated a diplococcus which is similar in morphology to a staphylococcus which he thinks is the cause of the disease. Inoculations on his own person from cultures produced the initial blister.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Influence of Alcohol on the Course and Complications of Syphilis.—YAHZA-MIRZA (*Rec. d'Ophthalm.*, October, 1903).—Although syphilis is relatively as frequent in Persia as in France, complications are infrequent. The course of the disease is mild and without ulterior consequences.

Ocular complications are especially rare. The writer ascribes this relative immunity to the very general abstinence from alcohol among the inhabitants, especially those living in the provinces.

Simple Glaucoma in the Young, with Report of Two Cases.—VEASEY and SHUMWAY (*Ophthalm. Record*, January, 1904).—Cases of glaucoma simplex occurring before the twentieth year are rare—less than one-tenth of one per cent. of all cases. In addition to the ordinary symptoms a striking feature has been the co-existence of myopia, which Nettleship observed in two-thirds of his cases.

Case 1.—Vision of the right eye began to fail during convalescence from typhoid at the age of sixteen. Three years later the eye had become totally blind. The patient then began to have attacks of pain in the globe, temporal region and side of the head.

The right eye was divergent 45°. Anterior chamber shallow, the right pupil reacting consensually only. Glaucomatous cupping of the disk of 9 D. Tension +. The left eye, apart from a slight myopic astigmatism, was normal. Pain persisting despite energetic local treatment, the right eye was enucleated.

Microscopically the essential points were: Anterior surface of the iris covered with a dense pigment layer, the iris stroma composed of a meshwork of pigmented cells, pigment lying between the bundles of the ciliary muscle and around the loose-meshed tissue of Schlemm's canal and the angle of the anterior chamber. The anterior chamber shallow. The lens was about one mm. larger in both the antero-posterior and equatorial diameters than the average of ten lenses similarly treated. The cornea, on the contrary, was not larger than the average. The points of interest emphasized were: (1) the large size of the lens, and (2) the extraordinary pigmentation of the eye, especially in the neighborhood of the iris angle. This, as the writers suggest, may have been a contributory factor in preventing the ready outflow of fluid through the angle of the chamber.

Case 2.—Male, nineteen years old. Vision began to fail at sixteen years. There was well-marked glaucoma simplex of the right eye with deep glaucomatous excavation. The left eye showed merely a physiological cup. T. + in either eye. A family history of myopia and the presence of a high grade of myopic astigmatism in the patient were points of interest. The field in the right eye was almost lost, that in the left showed a slight concentric contraction. The patient passed from observation, returning ten months later with vision in the right eye reduced to "light perception" and in the left to 20-50 with a contracted field.

The suggestion is made that the stretching of the globe with concomitant changes in the ciliary region may have exerted pressure on the angle of the anterior chamber.

The Retinal Symptoms of Retinal Degeneration.—L. A. W. ALLEMAN (*Am. Med.*, February 20, 1904).—The possibility of detecting functional changes in the fundus before the development of indubitable organic alterations in cases of general vascular disease is discussed by the writer. He has endeavored to determine whether the ophthalmoscopic findings are indicative of corresponding conditions in the general economy.

For convenience of description the cases are divided into four groups, "which in practice shade insensibly one into the other." In the first group there is no organic lesion but merely a "crinkling" and sharp turning of the smaller retinal vessels, sometimes accompanied by slight retinal haze. The second group, in addition to the changes described as characteristic of the first group, shows, ophthalmoscopically, unmistakable rigidity of the vessels as is evident from the conspicuous bending of an upper vessel as it crosses a lower. A transient and shifting manifestation is a localized diminution in the caliber of the vessels, probably due to disturbance in the vaso-motor control. Occasionally is observed a momentary decrease in the force of the retinal circulation, giving to the examining eye the impression of a "flash," this condition being usually associated with deficient action of the heart. The writer believes that he has also noted a rhythmic rise and fall in the retinal circulation.

In the third group the curve at the crossing of the vessels is quite marked, the blood stream of the lower vessel being somewhat obscured by haziness of the upper vessel. Hemorrhages may or may not be present.

The fourth group includes cases of advanced vascular disease, the ophthalmoscopic picture including bendings at the crossings of the vessels and obliteration of the blood stream by the wall of the superior vessel, which in some places is quite opaque.

Fundus changes as described in the first group are accompanied by high peripheral tension associated with improper elimination, oftenest diminution in the elimination of urea. There is a general feeling of ill health. Passing to the second group, the symptoms include mental hebetude and hemicrania, which is associated with retinal spasm. The heart is apt to show evidence of strain, and the elimination of urea is diminished. Later, the disappearance of vascular spasm is evidence of the hardening of the arteries. In the third group the radials are somewhat hard; cardiac hypertrophy is positively present. Some patients show no symptoms; others are in the "habitual enjoyment of ill health" with acute digestive disturbances. Urinalysis shows low urea and specific gravity, and the presence of hyaline and granular casts. In group four organic lesions are always found. In older patients the significance of the retinal lesions is less grave, and it is not unusual to discover a Bright's fundus during a routine measurement of the refraction.

Cases occur usually between the ages of twenty and fifty. The writer concludes that the detection with the ophthalmoscope of the first departure from the normal in the vascular system will permit a regulation of life with a view to preventing the early advent of senility.

BOOK REVIEWS.

A TEXT-BOOK OF LEGAL MEDICINE AND TOXICOLOGY. By FREDERICK PETERSON and WALKER S. HAINES. Vol. II. W. B. Saunders & Co., Philadelphia. 1904.

The second volume of this expansive and at the same time comprehensive work compares favorably with the first. The main portion is devoted to toxicologic matters, written by a number of well-known authors. The reviewer does not know of a publication, except some voluminous German ones, in which toxicology is represented in a more complete way while at the same time preserving the attitude of scientific reserve and thoroughness. A subject so full of incentives to experimentation as legal toxicology cannot be left without the most scrutinizing and criticising control. That this control has been kept conscientiously in view, and by going to the sources is demonstrated for instance by the chapter on the serum test for blood, where in a few words the essential points of the method are described and in such a way as to prove the author possesses an intrinsic knowledge of the underlying principles of the method. This text-book will be a standard book for some time, not only for practical purposes, but also as a source of reliable and accurate information.

DIAGNOSTIK DER KRANKHEITEN DES NERVENSYSTEMS. By DR. A. GOLDSCHIEDER. Fischer's Medicin. Buchhandlung. H. Kornfeld, Berlin. C. Stechert, New York.

This is a third edition of a work on the diagnosis of the diseases of the nervous system which has been a conspicuous success since its first appearance in 1893. The present edition has been considerably augmented by the addition of new matter. The arrangement of the book is very convenient. Especially to be recommended is the chapter on the examination of speech defects. The diagrams are a great aid to the proper understanding of this complicated subject. The chapter on topical diagnosis is exceptionally well planned for the purpose of accurate localization. A separate chapter on the diagnosis of diseases contains, in a very brief way, the principal symptoms of the most important types of nervous diseases arranged in a very compact form. No more satisfactory work on diagnosis is known to the reviewer than this. Its chief recommendation is its accuracy and satisfactory arrangement.

BEITRAG ZUR DIAGNOSE UND LEHRE VOM CRETINISMUS. By DR. G. P. BAYON. A. Stuber's Verlag, Wuertzburg. 1903.

This is a very readable little monograph on a subject which has received of late comparatively little attention. The author considers only such theories and opinions which have received recognition. These in turn he has been able to prove, or the reverse, by the study of his own material, which is considerable. A chapter on the history of the disease adds much to the value of the monograph. A very complete bibliography is a feature deserving mention. This may be said to be a very readable little work on a subject which is always of great interest.

SURGICAL DISEASES OF THE ABDOMEN. WITH SPECIAL REFERENCE TO DIAGNOSIS. By RICHARD DOUGLAS, M. D. Illustrated by 20 full-page plates. Philadelphia: P. Blakiston's Son & Company.

This is a handsome book of 183 pages, and contains in addition to the plates above mentioned many other extremely valuable features. The literature review is considerably better than is found in similar books of this kind. For instance, in detailing the early history of the surgical treatment of typhoid perforation, the author goes farther than his fellows by telling us not only who the fathers of this sort of work were, but by informing us where their writings are to be found. The same can be said of most of

the other subjects treated. The author has been a teacher and a practical worker in this field for more than eighteen years, and in this book supplies, or attempts to supply, what he found lacking and unsatisfactory in similar works. He lays great stress upon diagnosis, and purposely neglects many technical points which are to be had elsewhere. He contents himself with simply indicating the desirability of the procedure without further burdening his reader. Consequently the work has a greater value, as it should, for the practical surgeon than for the student, who naturally has no need of such a work.

THE PRACTICE OF OBSTETRICS. Designed for the Use of Students and Practitioners. By J. CLIFTON EDGAR, M. D., Professor of Obstetrics and Clinical Midwifery in the Medical College of Cornell University, New York. Royal octavo, 111 pages, 1221 illustrations. P. Blakiston's Son & Company, Philadelphia. Price, \$6.00.

This volume is founded upon fifteen years' work in maternity hospitals and in bedside and didactic teaching. The aim of the volume is to present the subject of midwifery from a clinical and practical standpoint, and for this purpose a new and simple way of classification has been adopted. We may say that one of the most pleasing characteristics of this up-to-date text-book is the splendid and clear arrangement of the text matter. The work is divided into ten parts. Each part begins with the table of contents of that part and is subdivided into sections. Again, each section is headed with a sub-table of its contents. This clear classification insures ease in finding the subject considered.

Another feature which clearly distinguishes this text-book of obstetrics from any other is its wealth in excellent illustrations. Their total number is 1221, most of which are original.

Both in the text and in the illustrating uniformity and consistency are kept constantly in view. It is clear that the value and importance of each subject has been carefully weighed, for each subject is given its appropriate and congruous space. We emphasize this point because many of the modern text-books are decidedly deficient in this respect, indicating too clearly the subjects in which the writer is particularly interested. Edgar's work is a good example of a well-balanced text-book, and we cannot fail in assuming that just this feature among many others will guarantee the volume the patronage of both teachers and students.

ATLAS OF TOPOGRAPHICAL ANATOMY. By DR. O. SCHULTZE, Extraordinary Professor of Anatomy at Wuerzburg. With 70 colored plates after or taken from Originals by Schmitson and Hajek. Also 23 prints. Munich: F. J. Lehmann's Verlag. Price, \$4.00. 1903.

This volume is characterized by the same excellent quality of work which is now a recognized feature of the entire Lehmann series of medical atlases. The size is 4mo. and the work consists of 156 printed pages, exclusive of the large number of illustrations mentioned above. The quality of the cuts is simply above comparison, and the choice of subjects represented certainly conform, as nearly as would be possible, to the needs of the practicing surgeon. Many of the pictures present the subject at hand from a point of view different from that usually taken, hence their value is at once apparent, even to a man who possesses a number of similar works. For instance, the region of the Gasserian ganglion is better depicted than the reviewer has seen it elsewhere in any work of the same size. This book, like others of the same series, is intended to fulfill the wants of the busy practitioner, and at a remarkably small cost. The work is written in the German language, although a liberal translation of the title is given above.

TEXT-BOOK OF OBSTETRICS. By J. CLARENCE WEBSTER, M. D. (Edin.), F. R. C. P. E., F. R. S. E., Professor of Obstetrics and Gynecology, Rush Medical College, in Affiliation with the University of Chicago:

Obstetrician and Gynecologist to the Presbyterian Hospital, Chicago; Obstetrician to the Chicago Lying-in Hospital and Dispensary, Chicago, etc., etc. Handsome octavo volume of 767 pages, with 383 illustrations, 23 in colors. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Cloth, \$5.00 net; sheep or half morocco, \$6.00 net.

This work has been written for the student of obstetrics, as well as for the active practitioner. The anatomic changes accompanying pregnancy, labor and the puerperium are described more fully and lucidly than in any other text-book. The exposition of these sections is based mainly upon studies of frozen specimens, in which department the author has had a larger experience than any other worker. Unusual consideration is given to embryologic and physiologic data of importance in their relation to obstetrics. The practical aspects of the subject are presented in such a manner as to be of direct assistance to the clinician. The illustrative feature of the work is far above the average. Many of the illustrations are entirely original. The work throughout expresses the most advanced thought of the day, and the statement can be relied upon as accurate.

DISEASES OF THE ANUS, RECTUM AND PELVIC COLON. By JAMES P. TUTTLE, A. M., M. D. With 8 colored plates and 338 illustrations in the text. New York: D. Appleton & Co.

As might be expected, a book of 961 pages can justly be expected to offer an exhaustive treatise on this subject. The representation of the author, based upon his years of experience in these lines, also prepare us for what is best in this line, and it is the reviewer's opinion that the practicing physician will find his needs amply supplied herein. This field of surgery has been so broadened in the past ten years as to make it almost a new one. During this time the author has conducted a large clinic, and what we find within these covers is largely a matter of personal experience during that time. Of course the book contains the principles established by others, but it is marked by a certain individuality, as will be readily noted. Not only are there a number of colored plates, but black illustrations to the number of 339, which serve to elucidate the subject-matter. The chapter on colostomy is worth the price of the book alone; but the chief value of the work will surely seem to many to lie in the help which it offers the beginner in making his diagnosis.

ANALYSIS OF THE SEXUAL IMPULSE—LOVE AND PAIN—THE SEXUAL IMPULSE IN WOMEN. Third Volume in Series "Studies in the Psychology of Sex." By HAVELOCK ELLIS, L. S. A. (England), Fellow of the Medico-Legal Society of New York and Anthropological Society of Berlin; Honorary Fellow of the Chicago Academy of Medicine, etc.; General Editor of the "Contemporary Science Series" since 1899. Extra cloth, \$2.00 net, delivered. Sold only to physicians, lawyers, clergymen, advanced teachers and scientists. Philadelphia: F. A. Davis Company, publishers, No. 1914-16 Cherry street.

This is the third volume of the "Studies in the Psychology of Sex." The present volume deals with some of the most essential problems of sexual psychology. It begins with an analysis of the sexual impulse. The author adheres to the theory that the impulse consists of two different processes: one of tumescence followed by one of detumescence. In the second study, "Love and Pain," among other questions the sources are discussed of those aberrations which are commonly known as "sadism" and "masochism." In the third study of the present volume on "Sexual Impulse in Women," we approach a practical question of applied sexual psychology, and a question of the first importance. In an appendix will be found a selection of histories of more or less

normal sexual development. These twelve histories are added not only because they are exceedingly interesting in themselves, but because they exhibit the nature of the material upon which the writer's conclusions are founded.

The two preceding volumes of these "Studies" have been translated into numerous foreign languages and have gained for the author the name of the foremost authority on sexual psychology. We do not doubt that this latest work will meet with the same success.

A TEXT-BOOK OF OPERATIVE SURGERY. Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. Written for Students and Practitioners. By WARREN STONE BICKHAM, Phar. M., M. D. Handsome octavo of 984 pages, with 559 illustrations, entirely original. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Cloth, \$6.00 net; sheep or half morocco, \$7.00 net.

This neatly bound volume of 983 pages and 559 illustrations may be said to be along somewhat novel lines, and in its system and arrangement to differ somewhat from its predecessors. The other books which have been written simply by compiling the good points of ten predecessors cannot be said to apply to this volume. The illustrations are all original. They depict the successive steps in various operations in a manner which makes it possible for one who has never seen this or that procedure to carry out the same. A feature of undeniable value is that of the attention which has been paid to original anatomy as well as to pathological anatomy. The book will in this way be more useful to students than many excellent works which appeal simply to the surgeon or general practitioner. The principles of surgery, including anesthesia, etc., have not been neglected, and hence the value of the work is enhanced for the man whose shelves are as yet but sparsely filled. Especial mention must be made of the chapters on intestinal surgery. The cuts are among the best which have been presented upon this subject, and the clearness with which the several steps in each instance are presented will make this portion of the book of much more than ordinary value. While not every method is touched upon, still all of the most useful ones are given in a way which cannot fail to be appreciated.

BLOOD PRESSURE IN SURGERY. An Experimental and Clinical Research. By GEO. W. CRILE, A. M., M. D. Philadelphia and London: J. B. Lippincott & Co. 1903.

Dr. Crile's work along physiological lines with a surgical application is already too well known to need extended comment. It is enough to mention that the present Cartwright prize essay, forming a book of 422 pages, is of a quality in keeping with what the author has previously done. The methods employed and the valuable results obtained cannot be even adequately touched upon in a review of this kind. The author takes up the various problems relating to exhaustion of cerebral centers and stimulation. The questions elucidated are all of them intimately related to the daily problems of surgical practice; and since they are matters of vital importance, the work is assuredly well worth a perusal.

THE INTESTINAL SUTURE. A History of the Various Methods of Enterorrhaphy. By FELIX TERRIER and MARCEL BAUDOUIN. With 587 figures in the text. Paris Institut de Bibliographie Scientifique, 93 Boulevard Saint Germain. 1898.

This French book of 415 pages is the most complete work of its size which relates to the subject in hand. Its hundreds of illustrations depict apparently every method which has ever been published for the accomplishment of intestinal anastomosis. The title is in a sense misleading, though it must be said to be modestly done, since the book gives us all of the mechanical as well as the suture methods. The reader will be surprised on looking through the pages of this work to notice that all, without exception, of the methods which crop up as new and original from time to time have been advocated and discarded years before. It is simply astonishing to note what a number of procedures and modifications of procedures have been advanced in this line of surgery. If the enthusiast is still convinced that there is something new under the sun he has but to con-

sult a complete work of this kind. Though the volume is in a foreign language, its illustrations are of sufficient value to recompense the purchaser, even though he be not able to read it.

ASEPTIC AND ANTISEPTIC PREPARATIONS AND TREATMENT OF EMERGENCIES AFTER ABDOMINAL SURGICAL OPERATIONS. By GEO. WACKERHAGEN. New York: Erpolton, 19 E. 16th St. 1904. Price, \$1.00.

This is a neat little handbook of little more than pocket size, containing 44 pages, but its material is so well selected and so tersely treated that no criticism can be offered with regard to size. It is obviously intended for the busy man, and such a one can find in it what he wants at a glance.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Volume two, General Surgery. Edited by JOHN B. MURPHY, M. D. November, 1903. Chicago: The Year-Book Publishers, 40 Dearborn St.

This well-known series, composed of volumes of about 500 pages each, is intended to serve the busy man, the object being to readily acquaint him with the literature of the year passed, supposing that he has not had time nor opportunity to read many of the vast number of journals published. Every subject in surgery has been more or less fully dwelt with in the little volume at hand, and the reviewer thinks very wisely, since in many instances we have more than a simple abstract where an important point is involved; that is, the words of the original author have been reproduced, even though in some instances several pages have been consumed in doing this. A few illustrations bring out the more salient points.

ROENTGEN ATLAS. For Use of Physicians and Students. By DR. HEINRICH HUEBLER. Forty-eight tables. Dresden: Gerhard Kuehntmann. 1903. C. Stechert, New York.

The x-ray work of this author is as well known, and it may be said as favorably, as that of any other man in the world. The usefulness of the present atlas is decidedly enhanced by the fact that its printed matter appears in English, German and French. It is not only of value from the standpoint of Roentgen pathology, but likewise as a pattern of the normal, from which to derive a true conception of the pathological. Every part of the human anatomy is covered and most of the 48 plates are masterpieces in their way. The number of the various pictures presented is largely in excess of 48, since as high as four appear upon some of the plates, only the largest of them being given up to one single photograph. It is hardly possible to think of a decided condition or of any form of accidental injury which is not covered by this extensive and masterful work.

THE FOUR EPOCHS OF WOMAN'S LIFE. A Study in Hygiene. By ANNA M. GALBRAITH, M. D. Second edition, revised and enlarged. Philadelphia: W. B. Saunders & Co. 1903. Cloth, \$1.50.

In this instructive work are stated, in a modest, pleasing and conclusive manner, those truths of which every woman should have some knowledge. The subject is discussed in language readily grasped even by those unfamiliar with medical subjects.

THE RIGHT TO LIFE OF THE UNBORN CHILD. A Controversy Between Professor HECTOR TREUB, M. D., Rev. R. VAN OPPENRAAY, D. D., and Professor TH. M. VLAMING, M. D. New York: Joseph W. Wagner. Price, \$1.00.

The question of the right of the physician to destroy, under certain conditions, the fetal life in an effort to save the mother, is a very vexed one, and has been the subject of many heated discussions between physicians and theologians.

The little volume before us is the English translation of such a controversy started by the famous Professor of Obstetrics of the University of Leyden, Dr. Hector Treub, who criticized the decree of the Holy Office in Rome (forbidding artificial abortion under all conditions), as being unwise and exceedingly narrow. The attentive reader of this book cannot possibly deny that both the accuser and the defenders present splendid arguments in defense of their respective positions; and, therefore, it is to be regret-

ted that the translator, a reverend, by certain inaccuracies in the translation and by the addition of "notes wherever they were thought desirable," deprives the reader of the opportunity to form an unbiased opinion. The translator endeavors to influence the reader against the arguments of the physician. Thus, *e. g.*, he confounds laparotomy with Cesarian section, or states emphatically that "all the foremost American medical writers" consider artificial abortion as unjustifiable, and advise the interruption of pregnancy after the fetus is viable, or Cesarian section at full term. It is obvious that this statement in this form is untrue and nonsensical. No physician will, in a case of uncontrollable vomiting, wait until "the fetus is viable," and every one of the American text-books teaches that under certain circumstances artificial abortion is not only justifiable, but strictly indicated.

The translator saw fit to add an appendix giving an account of a recently discovered "new" method of producing artificial abortion which permits of baptizing the *fetus in utero*.

LES MALADIES DESQUAMATIVES (Pityriasis et Alopecies pelliculaires).
By DOCTOR R. SABOURAUD. Masson et Cie, Paris. 1904.

This is the second volume of "Maladies du Cuir Chevelu" by the same author. The first volume is entitled "Maladies Seborrhéiques" and was reviewed in another number of this journal.

The present volume is the most exhaustive study of a subject the reviewer has yet seen. The book consists of 705 pages, which represents an appalling amount of work when one contemplates the minutia into which the author enters.

The first part, 269 pages, is devoted to the history of pityriasis in general and includes a critical survey of the writings of the most prominent authors upon that subject up to the present time.

Part II is the study of pityriasis proper and is divided into five sections:

Section I is devoted to the elementary lesion of pityriasis, the scale; it treats of its formation, evolution, histology, bacteriology and the various conditions in which it occurs.

Section II. The evolution of pityriasis in children, men and women.

Section III. The study of the polymorphic coccus of pityriasis which is the organism whose morphology was first described by Cedercreutz.

Section IV. The differentiation of pityriasis. Here the author shows his individuality and goes into the fine and closely drawn details so characteristically French.

Section V. Upon the therapeutics of pityriasis concludes the book. The volume is a classic and a monument to industry and French dermatology. For students of medicine, young or old, it is an example; for the dermatologist a rare treat, for the book brings the subject before him in all its details; whether he accepts the author's views or not is immaterial.

CLINICAL PATHOLOGY OF THE BLOOD. A Treatise on the General Principles and Special Applications of Hematology. By JAS. EWING.
Second edition. Lea Bros., Philadelphia and New York. 1903.

The new edition of Ewing's book does not differ in its general aspect from the former, which was generally received with favor by its readers. That such a clinical pathology does not do full justice to the pathology of the blood as such is of course self-evident, because for practical purposes, the morphologic side of the subject is as yet the most important. The attempt of the author to interpret the more obscure processes going on in the blood that are of prime weight biologically, is well shown by a very lucid and clear review of the immunity processes. It is unnecessary to say that the literature has been utilized almost up to the time of the publication of the book and no valuable addition to the sum of our present knowledge has been neglected. For this reason alone the book is welcome. Another reason is the conservative tenor expressed in the valuation of blood findings in pathologic conditions, a point that is sadly overlooked in other works on hematology. As to the chapter on the microscopic technique, the desire may be expressed that a more precise and definite representation of the methods should have appeared. This applies especially to the staining methods, which have reached, of late, a degree of definiteness and precision so far impossible in other branches of histologic work. In all, it must be said that Ewing's book in its new edition is the best representation of the subject so far published in our country.

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ORIGINAL ARTICLES.

A CASE OF THROMBOSIS OF THE SUPERIOR MESENTERIC ARTERY.*

By H. G. MUDD, M. D., of St. Louis, Missouri.

The case which forms the basis of this paper was seen in consultation with Dr. Phelps and Dr. Carson. W. W., age thirty-six, traveling salesman, married, a strong, robust man, who had been quite an athlete. Forty-eight hours before I saw the case, either during a game of tennis or shortly afterwards, was seized with acute abdominal pain. No movement of the bowels since that time. Vomiting began twelve hours after first seizure of pain, about thirty-six hours before I saw him. Had never been fecal. No heart lesions were found and the lungs seemed perfectly healthy. Moderate distention of the abdomen. Diagnosis: Intestinal obstruction. The family of the patient were informed that the diagnosis was, in a slight measure, doubtful, but that in any case an early operation gave the best chance for recovery. That the operation itself would probably not seriously endanger the patient's life, and that in case of an obstruction, which we believed to be present, the earlier the operation was done the better his chance for recovery. With this understanding the operation was accepted. Patient was removed to St. Luke's Hospital, entering at 4 P. M. March 20, 1901.

Operation made at 8:30 P. M. At this time temperature by mouth 100°; pulse, 84; respiration, 22.

Intestines were found moderately distended. Examination of the appendical region and of the sigmoid showed no cause for the obstruction. The only finding was what appeared to be a twist of the mesentery on itself, amounting to perhaps one-half turn. It was felt at the time that this hardly accounted for the obstruction, so that the finding was disappointing. The small intestine showed a rather marked congestion, and in some places there was a particularly tight, tonic, muscular contraction present, rendering the caliber of the small intestine extremely narrow, practically closing it. This contraction would involve several inches in length of the intestine in various portions with intervening parts of the gut normal. The spasm would continue for some time after

* Read before St. Louis Surgical Society.

the gut was brought out into view. Then the contracted portion would relax and the tonic spasm of the muscular wall of the gut occur in other portions, not traveling in continuity of the bowel.

The colon was somewhat distended and seemed rather thin but showed no other change. Careful search was made in the region of the muscular contractions of the intestines without finding adhesions or attachments of any kind, or evidence of stricture. A rectal tube was passed and gas could be forced through the tube from the intestines. Finding no definite lesion the abdomen was closed in the usual way, the intestines being replaced with some difficulty.

• At 10:20 P. M., on return of the patient to bed after the operation, pulse was 94. One pint of normal salt solution was given per rectum.

March 21st, 1 A. M., temperature by rectum, 101.4°; pulse, 98.

At this time patient was suffering and was given $\frac{1}{4}$ grain of morphine hypodermically. Enemas of normal salt solution were continued at four-hour intervals and were retained. Patient took small quantities of cracked ice and water, beginning at 5:30 A. M. These were retained.

March 21st, 9 A. M., temperature by rectum 100°; pulse, 98; respiration, 24.

At 3:30 P. M. patient had a small, liquid, brown stool. At 4:30 was given two ounces of sulphate of magnesia with thirty drops of laudanum by high enema. At 5 P. M. vomited for the first time since the operation. At 6:20 temperature per rectum, 100°; pulse, 100; respiration, 24. Vomiting from this time on was very frequent. At 8:30 P. M. patient had a large liquid evacuation from the bowel, dark colored, no blood. At 10:40 patient was given another high enema of sulphate of magnesia, glycerine and turpentine. This was immediately expelled with quite a quantity of flatus, but very little fecal matter.

Temperature rose in the night to 102°; pulse, 100.

March 22d, 5 A. M., normal salt enema was given, which was expelled immediately with some fecal matter and a quantity of flatus. Vomiting persistent. It appeared at this time that the patient was suffering from a parietic condition of the intestines and it was felt important to have the bowels moved if possible. At 9:30 A. M. patient was given a high enema of eight ounces each of fresh ox gall and water. This was expelled immediately with some flatus. At 12 noon patient had a large, soft, dark stool with flatus. During the afternoon the temperature was 102°; pulse, 100, and respiration, 26. Vomiting had been constant and persistent. Pain was not severe, requiring no opiates.

March 23d, 3 A. M., again passed a liquid, very light colored stool with a great deal of flatus.

6:45 A. M. temperature, 101.4°; pulse, 110, and respiration, 28. From this time on temperature and pulse rose constantly.

At 6 P. M. rectal temperature, 103°; pulse, 116; respiration, 28. Vom-

iting continued. Patient continued to expel flatus and occasionally small quantities of fecal matter.

As 10:35 P. M. temperature, 104.4°; pulse, 164; respiration, 36.

March 24th, 6 A. M., temperature, 105.2; pulse could not be counted; respiration, 36. Patient died at 9:30 A. M.

Family would not allow autopsy, so that the examination was incomplete, only the abdomen being examined through the courtesy of the undertaker, who allowed the examination at the time of the embalming. Autopsy by Dr. M. B. Clopton at 1:30 P. M. Flatus could be expelled through the rectum by pressure. There was a gangrene that began just below the duodenum and extended throughout the whole of the small intestine which included the cecum and about one-half of the transverse colon. This gangrene was sharply defined at either extremity. The fat throughout the peritoneal cavity was natural in appearance; no fat necrosis. The pancreas was removed and showed no abnormalities. The kidneys were rather small but showed little else except a cloudy change. The liver was not increased in size and showed no change. The aorta was then explored from a point just behind the pancreas. The superior mesenteric artery was found with its lumen closed by a thrombus for some inches, beginning one-half inch from its origin from the aorta. This, I believe, to have been a primary thrombosis of the superior mesenteric artery.

Occlusion of the mesenteric vessels by thrombus or embolus is a somewhat rare occurrence. However, Watson, in 1894, was able to collect 52 cases, and I have found reports of nine cases published since. The great majority of these cases are reported as embolus of the mesenteric artery.

In the majority of cases patients have suffered with cardiac disease of such nature as to make it probable that an embolus lodging in the artery caused the disturbance. No doubt some of these cases, however, reported as emboli were due to thrombosis without embolus. Welch says in this connection:

"It is probable that a certain number of the cases reported as embolic were referable to primary thrombosis."

In this case we found a twist of the mesentery, which we felt at the time of the operation might account for the congestion noticed in the small intestine. This twist might have so injured the wall of the superior mesenteric artery as to have become a determining cause of the thrombosis in this situation. This hypothesis, however, is not essential, but may explain the occurrence of the thrombosis. The slowing of the blood current produced by such a twist, in connection with the circular flow which this would entail, might in itself account for the formation of the thrombosis, without any injury to the arterial coat. In this case we have none of the usual causes for embolism or thrombosis. No history of syphilis, no heart lesion, no atheroma, no embolus elsewhere

and the thrombosis occurring in a young man. That such conditions as above described might have determined a thrombosis in this case may, I think, be granted. In support of such a belief I may be permitted to quote at some length from the exhaustive and masterly article on "Thrombosis," by Wm. H. Welch. He says: "There is no difficulty in producing thrombosis experimentally by injury, either mechanical or chemical, to the vessel wall."

"The prevailing view is that platelets exist in normal blood, where they circulate with the red corpuscles in the axial current. In accordance with this view many observers, following Eberth and Schimmelbusch, explain the beginning of the white thrombosis by the accumulation of pre-existing platelets upon a foreign body, or in consequence of slowing or other irregularities of the blood flow, on the damaged inner wall of the heart or vessels."

"Contact with the abnormal surface sets up an immediate viscous metamorphosis of the platelets, whereby they adhere to each other and to the foreign body or vascular wall."

"Diminished velocity of the blood current is not by itself an efficient cause of thrombosis."

"Slow circulation, however, in combination with lesions of the cardiac or vascular wall, or with the presence of micro-organisms or other changes in the blood, is an important predisposing cause of thrombosis, and frequently determines the localization of the thrombus."

"Eberth and Schimmelbusch find that under normal condition the platelets circulate with the red corpuscles in the axial blood current, but make their appearance in the outer, still zone, when the rapidity of the circulation is sufficiently diminished. Mere slowing of the circulation, however, does not suffice to form thrombi; there must be some abnormality of the inner lining of the vessel wall with which the platelets are brought into contact, in order to induce the viscous metamorphosis of these bodies essential in the formation of plugs. Hence, Eberth and Schimmelbusch conclude that it is only by combination of slowing of the circulation with changes in the inner lining that the formation of thrombi can be explained."

"Von Recklinghausen attaches more importance to a whirling or eddying motion (*Wirbelbewegung*) than to a mere slowness of the circulation. Changes, therefore, which impair or destroy the smooth, non-adhesive surface of the normal lining of the vessels play an important part in the etiology of the thrombosis, and thrombi thus caused may be called adhesion thrombi."

"The most important of the structural changes of the vascular and cardiac walls which cause thrombosis, are those due to inflammation, atheroma, calcifications, necrosis, other degenerations, tumors, *compressions*, and *injury*. Here, again, may be emphasized the importance of

retardation, and other irregularities of the circulation in rendering these various lesions effective causes of thrombosis."

"The majority of arterial thromboses are caused by some *local injury* or disease of the arterial wall, or by the lodgment of an embolus."

"But after all has been said, it is carrying scepticism to an unjustifiable extreme to refuse to admit the occurrence of primary arterial thrombosis in ineffective, cachectic and anemic states, under circumstances where the localization cannot be attributed to arterio-sclerosis or other pre-existing arterial disease. Mr. Jonathan Hutchinson has recently reported observations of rapid thrombosis of arteries without obvious disease of the walls."

"In the differential diagnosis between thrombosis and embolism emphasis is properly laid, in the former, upon more gradual appearance of the symptoms of vascular occlusion, and pre-existing arterial disease; and upon the detection of some source for an embolus, particularly cardiac disease, in the latter."

In the case reported above, I believe that the thrombosis had taken place very shortly before the operation. I quote again from Welch on "Embolism:"

"Mall has shown that contraction of the intestine exerts a marked influence upon the circulation through this organ. In the light of his results it is interesting to note, that immediately after closure of the main trunk of the superior mesenteric artery of a dog, the intestine is thrown into violent tonic contraction and remains in an anemic, contracted condition for two or three hours; after which the spasm relaxes and the bloodless condition at once gives place to venous hyperemia and hemorrhagic infarction, which appears in the third to the sixth hour after the occlusion of the artery." Again he says: "The ischemia is increased by a tonic contraction of the intestinal muscle, which follows for two or three hours closure of the superior mesenteric artery."

As to diagnosis, the above quotation from Welch gives most of the causes of thrombosis independent of embolism. As to the causes of embolus: any disease of the left side of the heart or the aorta which might allow the detachment of a clot, a vegetation, etc., would make possible the lodgment of an embolus in the mesenteric arteries. The diagnosis of this condition must of necessity be very difficult. The clinical histories given by the various observers seem to point to certain symptoms as more or less typical of the condition. The symptoms and effects produced by thrombosis of the mesenteric veins are practically the same as follow occlusion of the mesenteric arteries by thrombus or embolism.

In cases of occlusion of the mesenteric vessels the symptoms commonly found are:

Pain.—Usually violent, paroxysmal, colicky, abdominal pain; ordinarily not definitely localized.

Of twenty-seven cases analyzed by Watson, in which the clinical histories were satisfactory enough to justify drawing deductions, pain was the first symptom or coincident with vomiting or diarrhea in eighteen cases, or 66 per cent.; in two cases, localized in epigastrium; one in right iliac fossa; four cases, absent; five cases, not noted.

Diarrhea.—This is mentioned as a prominent symptom by most of those reporting cases. It is often profuse, usually bloody. The passages are described as foul-smelling, having the odor of carrion. In Watson's summary, diarrhea in seven cases was bloody; in six cases, no diarrhea or other disturbance of the bowels; in five cases, obstipation; in two cases, no record.

Hemorrhage into the bowel is certainly more profuse in cases of plugging of the mesenteric veins than in occlusion of the artery. Bloody stools, on which many authors insist (Nothnagel, Kussmaul, Gerhardt) show in many cases only on section, as no outward show appears.

Vomiting.—Usually very early and persistent. Often one of the first and most prominent symptoms. According to Watson, in fourteen cases, first or early symptom; in two cases, bloody; in three cases, fecal; in six cases, no vomiting; in seven cases, no record.

Subnormal Temperature.—This is a symptom emphasized by most writers on this subject. Kussmaul, one of the earliest to give a satisfactory account of symptoms, emphasizes a rapid and marked sinking of the temperature. In many cases this symptom, however, either was not present or not noted. In my case the temperature was never subnormal.

Abdominal Distention.—This usually begins a day or two after the onset of the illness, and increases gradually. It occurred in twelve cases (Watson); in four cases, no distention; in eleven cases, no record.

Several authorities, Kussmaul among others, note the presence of effusion in the peritoneal cavity. This symptom, however, is not noted in most of the reported cases as a symptom of this condition.

Preceding or coincident diseases which would predispose to the formation of a thrombus, or which might point to the possibility of an embolus, are important. Hence a careful, searching inquiry into the former history of the patient, and as to present condition of all organs, should be insisted on. The presence of emboli elsewhere is mentioned also as bearing on the probabilities. Welch says: "By far the most characteristic symptom which is present in the majority of cases, not in all, is the passage of tarry blood in the stools, which are frequently diarrheal, and sometimes have the odor of carrion. In nearly all cases there is a hemorrhage into the bowel, but the blood is not always voided."

Palpable masses due to blood collections in the infarcted bowel or mesentery have been found in a few cases.

Welch says again: "The chief emphasis for purposes of diagnosis is to be laid upon the occurrence of intestinal hemorrhage, not explicable by independent disease of the intestine or by portal obstruction, in combination with other symptoms mentioned, and with the recognition of some source for an embolus, perhaps of embolic manifestations elsewhere. In the majority of cases diagnosis has been intestinal obstruction or acute peritonitis." The diagnosis of this condition must of necessity be tentative and uncertain, frequently impossible. "Diagnosis impossible," says Borszeky. Perhaps the condition most apt to be confounded with it is intussusception. In both we may have diarrhea, intestinal hemorrhage, pain and vomiting. However, intussusception is apt to occur in young subjects. Fitz estimates that 56 per cent. of intussusception cases occur in subjects under ten years of age. In an analysis of twenty-seven cases of occlusion of mesenteric vessels Watson found none under ten, and only one between ten and twenty years. In any case the differential diagnosis between the two conditions is perhaps of interest rather than importance. The treatment would very likely be the same.

Prognosis.—Plugging of the superior mesenteric artery by embolus or thrombus is ordinarily followed by hæmorrhagic infarction of the intestine supplied by the artery. This, however, does not always result. Damage to the intestinal tract following occlusion of the mesenteric vessels may vary from complete gangrene of the intestine supplied by the occluded artery, to a simple venous hyperæmia and paralysis of the bowel. This difference of result must depend upon the suddenness with which the closure takes place. Litten lays stress on the fact that in order to produce hæmorrhagic infarction of the intestine supplied by the occluded artery, the occlusion must be sudden or very rapid.

I quote again from Welch's article on embolism: "Intestinal infarction is not the *imperative* result of occlusion of the superior mesenteric artery. Both the trunk and the principal branches of this artery may be *gradually* closed without serious effects. The rapid and complete closure of the superior mesenteric artery, however, is followed with great regularity, probably constantly, by hæmorrhagic infarction of the intestines. There have been several instances in which embolism or thrombosis of the trunk of this artery has caused hæmorrhagic infarction extending from the lower part of the duodenum into the transverse colon."

Hæmorrhagic infarction of the bowel may be insidious in its onset and course. "Usually, however, the onset is abrupt and grave intestinal symptoms are present."

Councilman says: "The superior mesenteric artery is in no way a terminal artery in the sense of Cohnheim. There are numerous anastomoses, not only between the very small branches, but with the gastroduodenal and inferior mesenteric. Where the closure of the artery takes place slowly enough to allow the development of a collateral circulation

there may be entire recovery, even after complete closure of the mesenteric arteries."

Virchow and Tiedemann have found in the section room cases where the superior mesenteric artery was completely obliterated by old, firm thrombi or connective tissue without any lesions in the jejunum or ileum.

A case reported by John Chiene, a dissecting room subject showed very free collateral circulation. The main trunks of the cœliac and mesenteric arteries were totally occluded by an old embolic process. Their branches, however, were free. The branches of the mesenteric vessels were filled through the superior hæmorrhoidal artery, which was as large as the femoral. Blood reached the superior mesenteric through the left and middle colic arteries, which were double their natural size. There was great enlargement of the extra- and retro-peritoneal plexus of the ordinarily small arterial vessels, and they served as the channel of communication between the internal iliacs and the mesenteric arteries. This plexus was placed along the sides and posterior surface of the rectum. Chiene concludes that enlargement of this plexus, which was described by Prof. Turner in 1863, may take place to such an extent as to become the channel of blood supply to the abdominal viscera when their main arterial trunks are obliterated. Cases giving symptoms indicative of hæmorrhagic infarction followed by recovery are reported by Gull, Finlayson, Cohn, Moos and Lereboullet. Other cases of recovery after symptoms justifying a diagnosis of thrombosis or embolism of the mesenteric vessels are reported by Aufrecht, one case; Ott, two cases. These cases recovered under expectant treatment—*i. e.*, there was no operative interference. The usual result of occlusion of these vessels or their branches is infarction of the affected bowel and death of the patient. This is proven by the clinical histories of the reported cases; nearly all patients die. There seems to be undoubtedly a more rapidly fatal ending in cases of thrombosis of the mesenteric veins than in the cases of occlusion of the mesenteric arteries. In Fagge's case of thrombosis of branches of the mesenteric vein supplying the jejunum, death ensued in twelve hours from onset of the attack. Pilliet also reports a case ending fatally within twelve hours of onset of illness. Another interesting feature of these cases is that a plugging of one of the smaller branches of the artery or of a small branch of the mesenteric vein, followed by infarction of only a small part of the intestine, has produced as severe and as many (or more) abdominal symptoms as when the main trunk of the vessels is occluded, and, Watson believes, may lead to more speedily fatal termination. Of eight cases of complete occlusion of the main trunk of the superior mesenteric artery analyzed by Watson,

One presented no abdominal symptoms.

One only slight tympanites and abdominal pain.

In one abdominal distention and vomiting were the only abdominal symptoms.

In one acute colicky pain was the only abdominal symptom.

In one abdominal pain and diarrhoea were the only abdominal symptoms.

This fact makes it impossible to discriminate clinically as to the extent of the lesion; even if the symptoms enable us to make a fairly definite diagnosis as to the nature of the case.

Treatment.—The first record I find of operative interference in this condition is in 1895, when J. W. Elliott, of Boston, reported operation on two cases within three weeks. The first case, a man of twenty-five, had had a hernia of the right side for four years. This had been reduced with difficulty and pain ten months before. Since that time had had pain at site of rupture on any sudden exertion. Had had pain in right lower abdomen for two weeks. Slight pain the day before entrance, while playing ball, in the right groin: patient went home and vomited. He ascribed the vomiting to smoking. Slept well. Next morning bowels moved naturally and man went to work. One hour later had pain in the right inguinal region. This pain increased, and patient went home and vomited. Operation was made twenty-four hours after the onset of the severe pain. No diagnosis. Patient was in bad condition; pulse 140. Large quantity of bloody fluid escaped from abdomen. No evidence of hernia, constriction or twist. Intestine neither dilated nor contracted. A knuckle of dark, gangrenous looking, small intestine was found. Enlarged glands in the mesentery. Mesenteric vessels felt thickened and seemed to be plugged. Intestine contained quantity of dark bloody fluid. Four feet of the small intestine resected, taking care the section was made in healthy tissue. The mesenteric vessels cut, bled but little. Union of the cut ends was not made, patient's condition not justifying this procedure. The mesenteric borders of the cut ends were carefully united, and the open ends of the gut stitched into the abdominal wound. Some two weeks after the operation it became evident that the patient was losing flesh. The discharge from the wound was digesting the skin in that region. The ends of the bowel were then dissected free, and the ends united. Following the second operation was a small fistula, which was closed a few months later. Complete recovery followed.

Elliott remarks that the obscure point in this case is the *cause* of the plugging. No syphilis, no twist, no source for embolism or thrombosis. Elliott thinks it highly probable that the vessels were occluded by a process originating within themselves.

Dr. Whitney remarks in Dr. Elliott's case that the possibility of an *axial twist* of the intestine cannot be denied as a predisposing factor for the thrombosis; but there is not the slightest evidence, either at the time of the operation or in the specimen, that such a condition had taken

place. The other associated conditions seem also to have been excluded here; and we are forced, as far as the evidence goes, to the assumption of a *primary thrombosis* of the mesenteric veins as the cause of the infarction.

Elliott's second case was a man of nearly seventy years. The diagnosis before operation was obstruction (probably cancerous) of the descending colon. On opening the abdomen, free gas and fecal fluid were found in the peritoneal cavity. The descending colon was opened and stitched into the abdominal wound. The gut was friable, stitches cut out, gut finally held in place by a rubber plate passed into the bowel and pulled tightly up against the abdominal wall. A second opening made in the median line, peritoneal cavity washed out, and glass drain placed in the pelvis. Patient was relieved for a few days. Soon failed, and died at the end of a week. Autopsy showed three or four inches of the colon gangrenous and perforated. General peritonitis. Thrombus in the trunk of the mesenteric artery, primary; chronic endarteritis the cause.

Gordon, in 1898, also reports a case of resection, in a woman, forty-five years of age, giving history of syphilis of eight or ten years' standing. Was seized with sudden severe griping pain in the lower part of the abdomen and vomiting; bowels were not moved subsequently to the attack of pain. In this case there was no abdominal distention, and the tumor was easily detected in the right iliac region. Case was looked on as one of obstruction. Abdomen opened in the middle line below the umbilicus. There was escape of fluid and a distended coil of very dark bowel presented in the wound. The peritoneum had not lost its polish, and, indeed, there were none of the unequivocal signs of gangrene present. There seemed to be a contraction at the outer end of the loop, and this marked off the darkened region very abruptly. Below, the transition to the normal intestine was more gradual. The wall felt thickened, emitting a heavy but not offensive odor. In the mesentery was found a continuation over a little area of the same condition. A resection of the intestine was made, Ball's bobbin being used for the purpose. Two feet of the intestine removed. A considerable area of mesentery was also removed. Mr. Gordon notes that some vessels in the mesentery bled freely when divided. Woman recovered. This case, I believe, may be fairly considered one of hæmorrhagic infarction of the intestine, dependent upon a sudden obstruction of a branch or branches of the mesenteric vessels. These cases give practical proof that in certain cases resection of the infarcted intestine may be followed by complete recovery. All of these cases have been operated upon without a clear diagnosis of the condition. Probably most cases of thrombosis or embolism of the mesenteric artery may not be recognized before operation. But in many cases presenting symptoms of obstruction, or cases presenting symptoms suggestive of thrombosis or embolism of the mesenteric ves-

sels, an operation seems justifiable. In many of the cases suffering in this way the general condition of the patient must necessarily be very bad. Cases of embolus are usually associated with serious lesion of the heart or aorta, and are unfavorable subjects for operations. However, in any case where general conditions justify surgical interference, operation should be undertaken early. Resection of the infarcted portion of the gut, where practicable, should be made, taking care to cut wide of the diseased tissue; and it would seem that the removal of a wedge of mesentery corresponding to the diseased portion of gut might spare the patient the danger incident to the presence of the thrombi in the vessels. To be sure, most of the cases met with will probably present so great an extent of infarcted intestine that it would preclude any resection. Such cases must necessarily be left alone. But the exact conditions in the abdomen can be recognized *only* after exploratory section. This, in a well-appointed hospital, should not materially increase the risks. Lothrop, who reported three cases, I think sums up the matter well. I quote, "If embolus is diagnosed, *operate*, for neglect is sure death."

"If embolus is *suspected*, *operate*, for the dangers of an exploratory laparotomy in well-appointed hospitals are less than the risk incurred by expectant treatment."

As regards the amount of intestine which can be safely resected, with recovery, Senn experimented on dogs, and concluded that where more than one-half of any part of the small intestine was resected and the animal survived the operation, marasmus followed. Kocher resected two meters and eight cm. for injury of the gut in a railroad accident. This patient remained well, except for a diarrhoea, which was easily started by any errors of diet. Braun resected one meter and thirty-seven cm. in an operation on an umbilical hernia. This patient died four months later of inanition.

Grzebicky believes that the resection of 286 cm. in man is perfectly feasible. In a recent article by Park are recorded seventeen cases in which more than two meters have been removed; fourteen cases recorded as recovered. The largest amount resected, with subsequent recovery, was 330 cm. by Ruggi. In Park's article nothing of the after history of the patients noted as recovered is given, except in his own case, in which 265 cm. of gut was removed. This patient was reported in excellent health eleven months later.

In any case in which occlusion of the mesenteric vessels is suspected, in which, for any reason, operation is not made, the heart's action should be stimulated in every way possible, bearing in mind that the only hope in cases of this kind, except by operation, is through the establishment of a collateral circulation, which may enable the affected parts to retain their vitality.

Watson, after analysis of the cases collected by him, says: "In about one-sixth of the cases the autopsy showed that the intestinal lesion was sufficiently limited and well defined to allow of a successful resection of that part of the bowel." This proportion, it seems to me, is larger than will practically be found amenable to surgical interference with a fair prospect of recovery. However, there must be a small proportion who may be saved by prompt and intelligent action, and it behooves us to grasp the opportunity to save even this limited number of sufferers.

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THE CLINICAL SIGNIFICANCE OF PROLONGED UTERINE HEMORRHAGE.*

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One of the most troublesome and annoying symptoms of affections of the female generative organs is that of abnormal uterine flow. It may occur at any time of life, though it is most noticeable during the years of menstrual activity. It may take the form of prolonged menstruation, or may begin and terminate between two successive menstrual periods. Precocious menstruation, which may be exaggerated by contamination or manipulation of these organs in the child, may last a considerable length of time. In one case I saw, the flow had lasted five weeks. Of injuries during birth little need be said. The use of much force in delivery may so embarrass the circulation as to lead to uterine congestion, with constant oozing of blood through the mucosa. Whether trauma to the spinal column or to the brain can cause uterine hemorrhage in the infant is purely speculative. Female infants have been known to have prolonged vaginal flow of blood, and the woman who has passed the menopause, even for a number of years, is by no means free from this symptom. Twice I have seen it in women ninety years of age.

The *causes* of this condition are multiform. In the infant it may be due to injuries during birth or to abnormal conditions of the walls of the blood vessels or to the blood itself, either inherited or acquired. When acquired, it is probably most frequently due to infection, and that generally through the umbilicus. Under such conditions it does not vary in pathology from other spontaneous hemorrhages in the newly born, such as melæna, hematemesis or hemorrhage from the umbilical cord, skin, conjunctiva or other mucous membrane. Later in the life of the individual, it may at any time be due to trauma. Menstrual precocity, with embarrassment of nerve control over the female generative organs, and some of the acute exanthemata, such as scarlatina, diphtheria, etc., are the most frequent causes before the age of puberty.

During the period of generative activity—from puberty to the menopause—the variety of the causes and the frequency of the symptoms are greatest. Among the great number of causes during this period of life are endometritis, subinvolution of the uterus, disease of the uterine appendages, infection of the uterus or appendages, the presence of foreign bodies in the uterus, retained foetal appendages, threatened abortion, induced or otherwise, placenta prævia, the presence of tumors in the uterus, ovarian or tubal hemorrhage, ectopic gestation, new growths in

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the uterus, pelvic adhesions, marked anæmia, syphilis, so-called hemorrhagic diathesis and pelvic engorgement from prolonged muscular effort in certain bodily positions. After the menopause the condition is practically always due to new growths, though occasionally senile endometritis may be the only condition discoverable to which may be attributed the blood loss. Conditions localized at a distance from the uterus may also produce prolonged uterine hemorrhage. Among these may be mentioned renal or hepatic sclerosis and incompetency of the cardiac valves. In fact, when blood stasis in the inferior vena cava from any cause is present, uterine hemorrhage is liable to occur.

Traumatism has been found to be the cause in many unique cases. In one seen by myself, a child, eight years of age, riding on the handle bars of a bicycle, fell and the lamp bracket was forced through the perineum, causing a complete laceration and uterine hemorrhage for a number of days. Among the reported cases is one impaled on the handle of a hay fork; another upon the horn of a goat; and many others from injuries of an almost similar nature.

In endometritis, prolonged menstruation, with or without profuseness of flow, is usual. Irregular hemorrhages from this cause are not at all uncommon, nor should hemorrhage lasting for several weeks at a time, even after a period of many months, be considered very rare. Obre reported the case of a virgin, fourteen years of age, in which the first menstrual discharge could not be arrested and death resulted. The autopsy showed a softened and ecchymotic mucosa partially detached from the uterine muscularis.

In the *London Medical Gazette*, in 1846, Whitehead reported a case in which a girl of seventeen fell on the ice in the street and sustained a severe shock. Ten days later menstruation, which had been established for four years, appeared, and was followed by profuse hemorrhage for five or six days, from the effects of which she only recovered for ten or twelve days. The following month the catamenia lasted sixteen days. The next period was normal, but a few days afterward metrorrhagia began that was impossible to control, and terminated fatally in thirteen days. At the autopsy no organic lesion was discovered. The uterus was nulliparous, rather larger than usual, with walls although less firm than usual but of normal thickness. It contained a clot of blood which filled the cavity. The appendages were normal.

Nor should we forget that sexual intercourse in vigorous individuals when disparity in size of the male and female organs exists, is a frequent cause of irregular uterine hemorrhage.

In subinvolution of the uterus, the tissues of that organ are in a state of atonicity. There is persistent venous engorgement and a boggy and relaxed mucosa which needs be influenced but slightly that venous oozing from it may occur.

A diseased condition of the uterine appendages is commonly found

when uterine hemorrhage is prolonged. This may be of an acute infectious variety that has reached these organs from the uterine cavity. The infectious process in the uterine mucosa has caused a degeneration of the capillaries there, and perhaps it is the element of infection independent of tubal or ovarian involvement that prolongs the flow. But in other cases in which the appendages are crippled from infectious process and after the process has become quiescent with perhaps death of the invading micro-organism, we find hemorrhage recurring though careful curettage of the uterus has been performed. In this case, however, probably prolonged venous stasis is a prominent causal factor. Foreign bodies have been found in the uterus and their removal has promptly disposed of the steady blood loss for weeks. We have already referred to blood clots found in the uterus at autopsies from fatal hemorrhage; and West reports a case where autopsy showed no other condition to which might be attributed the fatal uterine hemorrhage. Threatened abortion may extend over a period of weeks without positive evidence of pregnancy and during most of that time metrostasis persists. After removal of part of the conception products severe and even fatal hemorrhage may result. In one case to which my attention was called, persistent hemorrhage followed a supposed emptying of the uterus following a miscarriage. Autopsy showed a fetal head of three or four months' development had been left in the uterus. In another case a woman had induced abortion, passing the two months' fetus last February; hemorrhages continued, and in August she passed the fetal appendages with cessation of the flow.

Placenta prævia is a fairly common cause of irregular uterine hemorrhage, which may or may not be severe. Ectopic gestation is a frequent cause of uterine hemorrhage. Probably this symptom is most marked in tubal abortion, in which the symptoms are more prolonged and less severe than in rupture. The metrostasis is likewise less in quantity and usually extends over a greater period of time. Tubal and ovarian hemorrhage, independent of ectopic pregnancy, are not uncommon causes of uterine hemorrhage. In women suddenly chilled during menstruation the menstrual flow may promptly cease with increased congestion of the appendages resulting. Blood is poured into the cavity of the Fallopian tube or into the Graafian follicles or corpora lutei, and in a short time the uterine flow is re-established for a considerable length of time. This condition of the ovaries and tubes may be unilateral or on both sides.

Pelvic adhesions of the uterus and appendages are conducive to uterine congestion, relief from which is found in metrostasis. New growths producing uterine hemorrhage are carcinoma, fibroma, fungi and polypi, hydatidiform or fleshy moles, and rarely sarcomata. The new growths producing hemorrhage are usually located next the mucosa or developed in it (carcinoma). The uterine hemorrhage in carcinoma

is usually a symptom of a late stage of the disease. Marked anemia may lead to hemorrhage from any portion of the body, but the uterine mucosa has a special predilection to such process. Syphilis by its changing the structure of the walls of the arterioles in the uterus has a tendency to prolong uterine flow.

After the menopause uterine fibroids, simple or degenerated, and carcinoma of the cervix or body of the uterus are probably the most common causes of this symptom. Senile endometritis and the various forms of degeneration of the mucosa, such as polypi, fungi, etc., are practically the other conditions leading to uterine hemorrhage.

Cases are not uncommon in which women a few months or years after menstrual life is supposed to be ended have taken long walks or have undergone severe mental or physical strain and have been subjected to subsequent uterine hemorrhage.

Diagnostic Value.—The diagnostic value of this symptom is slight, independent of the history of the patient and careful physical examination. General conditions must be considered as well as the history of trauma or possible pregnancy or of local diseases situated at a distance from the uterus. In one case observed by me severe uterine hemorrhage at frequent intervals had alarmingly exsanguinated a young woman twenty-eight years of age. Marked mitral insufficiency was discovered and the administration of infusion of digitalis promptly terminated the flow. The principal importance, however, in diagnosis during the child-bearing period lies between abortion, some form of endometritis and ectopic gestation. In these cases we have no large tumor, such as fibroids that are easily felt, and if the amount of intraperitoneal hemorrhage has been slight or not walled off by adhesions, we may have little to guide us in a physical examination between these three conditions. In endometritis, however, the condition has usually existed for some time, and in the usual symptoms experienced in abortion and ectopic gestation there is a history of at least one menstrual period being absent just preceding the attack. The other symptoms of pregnancy should be sought, and in practically every case of ectopic pregnancy a mass, even though small, will be found on one or other side of the uterus. Between endometritis and polypi or fungi, the history of the case gives great assistance. In tubal and ovarian hemorrhage absence of the flow for one or more periods is usually not a symptom; after the menopause this symptom will at first arouse suspicion of malignant degeneration.

Treatment.—The treatment is based upon the diagnosis of the condition causing the hemorrhage, each receiving its requisite treatment unless the hemorrhage be severe, when vaginal packing, ergot, salt solution, stimulation and recumbency in bed may be indicated. In those conditions requiring curettage alone, this operation may be done promptly in most cases. If severer surgical intervention is necessary, evidence of progressive internal hemorrhage being absent, time may be utilized in improving the patient's general condition before operation to great advantage.

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RADIOTHERAPY IN THE TREATMENT OF ACNE VULGARIS.

BY MARTIN F. ENGMAN, M. D., St. Louis, Missouri.

[CONTINUED FROM MARCH ISSUE, 1904.]

When the lesions are thus superficially situated, the curette, when passed firmly and swiftly over the skin, detaches the crust and scrapes off the heads of the papules, pustules and comedones, and their contents can then be easily expressed. The local medication used can, therefore, act more directly upon the offending organisms after the removal of the protective crusts and covers of the lesions. Superficial and mild cases of acne are, in my experience, very stubborn to the rays; so much so that I have abandoned their use in such cases and rely upon the more efficacious curettage with local medication.

In the writer's experience the x-rays are particularly beneficial in two forms of acne: 1st, acne indurata, so-called, when the lesions are flatly convex, presenting no summit or peak, whether superficial or deeply situated, and when of a markedly inflammatory nature; 2d, in acne rosacea, accompanied more or less by active inflammatory symptoms.

When the lesions of acne are more or less deeply situated in the skin and are of a flatly convex form, such as we find in acne indurata, the curette fails to perform its proper office and glides over the little lesions, leaving them in their former condition; therefore, the lancet must be used to evacuate their contents, which causes some scarring and does not prevent the formation of new lesions in the neighborhood. Here the rays act as a specific, causing the little tumors gradually to disappear, sometimes as if by magic. Often after the first treatment have I seen marked improvement. There is no other remedy with which I am familiar that has this specific action; the effect is a specific one, for the lesions can be made to disappear under their influence without producing any obvious change in the normal skin about them—an action similar in its results to that of mercury upon syphilitic lesions. Such a result must awaken the enthusiasm and gratitude of one who has patiently wrestled with a stubborn condition like acne indurata for years, with at times discouragement amounting almost to despair. Before the introduction of the rays in the treatment of acne indurata we could promise the patient little more than a slim diet, much medicine, many thrusts from the lancet, greasy salves, sulphurous lotions, while now we can cause the disappearance of the disease without any of these hardships. Even upon a diet liberally mixed with chocolates, patties and other much-vaunted pimple producers, have I seen the disease uniquely disappear; however, I do not recommend this particular dietary except as an experiment.

By the older methods of treatment relapses were as severe as the original attack; in fact, new lesions would appear during active medication,

in spite of the most scrupulous care and diet, thus dragging the cases on for months and years. With the rays relapse is not so frequent; when it does occur the lesions are much less resistant, more superficial, and are far more easily eradicated than the earlier ones. By judiciously timed exposures, after the cure of an attack, recurrence can in the majority of cases be prevented. One of my patients who had not been free from acne lesions for eighteen years, has now enjoyed perfect immunity for eight months: This lady had been treated by some of the most celebrated men in this country and Europe, had spent months in water cures, had been to celebrated internalists, dieted, had conscientiously tried to relieve herself of this disease, but without avail until she submitted to the rays. Such an example is enough to convince one of their efficacy. In acne rosacea the results are equally as good as in acne indurata, but the involution of the lesions is slower than in the former condition.

Mild curettage of the face on the days that the rays are not used is, in this condition, often of great assistance. In the management of acne rosacea, as well as acne indurata, new lesions occasionally appear during the series of exposures, but they are non-resistant, mild and quickly undergo involution. Relapses in the majority of cases can be prevented in the former as well as in the latter condition by the proper use of the rays after the initial eradication of an attack.

Those who have used the x-rays in acne are sanguine of their efficacy; yet, many doubt the advisability of using an agent which may be so potentially destructive and terrible in its action in so harmless a disease.

In the first place, acne is not a harmless disease. Of course it does not destroy life, but it does in many, many instances destroy the social ambition and future happiness of those whom it afflicts. Its disfiguring scars render hideous many a charming face and turns an otherwise happy girl into a morbid, sensitive and melancholic individual—one who would grasp at any straw to be free of her unsightly disfigurement. Acne is not to the afflicted individual a harmless disease, as it may change the whole course of her future career and happiness.

The dangers of the x-rays in acne are: 1st, destructive dermatitis; 2d, atrophy of the tissues not dependent upon an active dermatitis; 3d, slowly progressive changes in the skin, which are spoken of in a vague way as possibly occurring years after treatment.

1. Of the thousands of cases of acne treated by the rays, I have not been able to find a report of a burn of any degree. But this fact, if it be a fact, must not mislead one. Burns can occur and possibly have occurred; therefore, in the use of the rays such a possibility must remain constantly before the operator. He must know his tubes, the energizing apparatus, and must examine his patients before each and every exposure in the bright sunlight, for any bronzing or redness of the skin. The smallest details are never unnecessary to prevent untoward effects. The most dangerous factors in this respect are: (a) overconfidence on

the part of the operator. After thousands of exposures one might become careless, or possibly over-confident in his judgment; (*b*) too much zeal and, therefore, zealously push the treatment to a degree when a severe reaction might follow; (*c*) idiosyncrasy, which should be looked for in every case, no matter what the nature of the emergency may be—a sufficient time should be allowed for the appearance of any reaction during the initial exposures; (*d*) the use of irritating local applications during the treatment by the rays; (*e*) the great danger of attributing an erythematous blush to cold, heat, winds or other irritants, when such an erythema, in one undergoing x-ray treatment, might possibly be due to the effects of the rays, and, therefore, subsequent exposures would be dangerous. Any erythema occurring upon the face of a patient during x-ray treatment should be looked upon with suspicion.

My series of cases have been treated in the following manner: The patient's reaction to sunlight is inquired into and the answers carefully weighed and considered, for those whom the actinic rays of the sun markedly effect are more susceptible to the x-rays; therefore, in such a case one should proceed with more than usual caution. In the usual run of cases the first exposure is five minutes, with a soft tube, emitting enough light to show the outlines of the hand upon the fluoroscope. The hair is protected by lead foil, and also the eyes and eyebrows. The tube is placed at nine inches from the skin. Four days later a similar exposure is given. Then three days later and afterwards two days. I have never seen reaction occur during these initial exposures, yet in many cases I have remarked much improvement in the acne. After the initial exposures the rays are used three times a week, the length of time varying from five to ten minutes, according to the state of the case, with the tube never nearer the skin than six inches; usually eight inches. The light is always at the initial degree and in no case does the current exceed two amperes. By this mild treatment the lesions disappear without producing erythema or bronzing. In the forty-eight cases bronzing occurred only once and erythema once. Both lasted for but a few days.

Many operators advocate the production of an erythema even in acne. This as a routine procedure is dangerous, for to cause this reaction the treatment must be more energetically given and is therefore not as completely under control. The milder method probably requires longer, but is just as efficacious in the end, and is certainly far safer. However, when an erythematous reaction is brought about by carefully regulated exposures, as to time and distance of tube, it usually disappears in a short time and is harmless, if the treatment is abruptly stopped upon its first appearance. In my work, careful record of each exposure is taken: date, time and distance. A stop-watch marks the minutes; and a trained attendant is always with the patient. No manipulation of the face is practiced on the days the x-rays are given. The patient is examined in a good light before each exposure, for a reaction, and is instructed to re-

port any burning or itching. If there is any redness of the face from any cause the exposure is delayed until the succeeding day. During the treatment the following lotion is given the patient to sop on the face several times a day:

R	Resorcini	5 ss
	Zinc oxidi	5 j
	Pulv. calamine prep.	5 ss
	Aq. rose	3 iij
M.	Sig.—Extr. use; shake.	

This preparation is soothing, mildly antiseptic and non-irritating.

In using the preparation it is well to have the patient wash it off before coming to the office, as the powder it contains might conceal an erythema.

Proceeding in this cautious manner an eruption is removed in from four to sixteen weeks. After the cure of the attack a weekly exposure for several weeks is given and then every two weeks, which I believe is a wise procedure to prevent relapse. It is always well after removing an acne eruption to instruct the patients to use an antiseptic soap and lotion constantly in the routine of their toilet, to prevent recurrence; also, to warn them against coming in contact with the skin of those infected or to use their toilet articles. I am positive I can trace infection in many instances. I have five cases under my care at present in whom acne lesions appeared for the first time after visits to a certain popular "Dermatological parlor," where the patients received face massage for wrinkles, increased fat in certain parts of the face, etc. In the regions massaged the acne lesions occurred. These lesions contained a mixed infection of the staphylococcus and acne bacillus. Therefore, I believe local preventive treatment, along these lines, is of the greatest value.

In the treatment of acne by the x-rays, one of its first effects is the decrease of the oily seborrhea which usually accompanies this disease.

2. Atrophy of the skin and subjacent tissues has been reported after long course of exposures for acne, without the production of marked acute inflammatory symptoms. This result is, of course, very unfortunate and should be kept in mind when the treatment has to be pushed and continued for a long period. I cannot understand how atrophy could occur without the previous production of some slight but obvious reaction, such as bronzing or mild erythema, during the course of the treatment. To produce an atrophy of the skin or its appendages by the rays, more than a leucocytosis must be obtained. The direct specific effect of the rays must be induced; that is, their destructive action upon the cells through the production of degenerative changes, by increasing the length of exposure, decreasing the distance of the tube from the skin, and, possibly increasing the amount of energy in the tube. In very stubborn cases of acne there is a great temptation to hurry things in this manner,

but it is a dangerous procedure, and I believe is the cause of the majority of these unfortunate results. A longer course of treatment with mild doses of the rays, is, at any rate, a safer method. The beneficial results of radiotherapy in acne is not due, I believe, to the atrophy of the glands of the skin, but to the mild leucocytosis which occurs before the more specific action of degeneration of the highly differentiated structures.

3. Often in the use of new potent remedies there is much mysterious whispering in awe-like tones of the probable terrible results which will ensue years and years after such a treatment. This now assails the use of radiotherapy in acne. Several patients have refused the rays, not from the fear of a "burn," but from the terror of its effects in years to come. To refute these rumors is, at present, impossible. Time only can do this; but reasoning from analogy, a knowledge of the action of the rays, and by looking at the subject from a common-sense view, I am led to believe that these rumors or prejudices have sprung from those unfortunate cases in which much destruction was caused by the rays in their early use. I do not believe that grave atrophy, or tissue changes of a grave character, can be produced without causing certain preceding observable symptoms, therefore this fear of atrophy should cause one to cease treatment with the rays, upon the first appearance of the least sign of bronzing or erythema.

If bronzing or erythema is produced by mild, carefully regulated exposures, and the treatment is immediately stopped upon their first appearance, it is hardly possible to conceive of any grave trouble that could follow such an effect or method of treatment.

CLINICAL REPORT.

A CASE OF COMPLETE EXTIRPATION OF THE LARYNX.*

BY N. B. CARSON, M. D., of St. Louis, Missouri.

About the latter part of February I was consulted by Dr. Loeb concerning a patient of his who had a carcinoma of the larynx which upon examination could be distinctly seen involving the left side. Appreciating the fact that the laryngoscope fails to reveal in all cases the full extent of the disease, I advised an operation for the removal of the entire larynx, being radical on the subject of removal for malignant troubles, believing only in that way is a complete eradication to be accomplished if it is to be accomplished at all. Placing the situation very plainly before the patient, I advised him to enter the hospital to have the larynx removed in its entirety. On the 6th of March he came to Mullanphy Hospital and upon the 9th I performed laryngectomy.

The patient was forty-eight years of age, good family history, good habits and, otherwise than the trouble for which he was in the hospital, healthy. He gave the following history of his present trouble: Nine months before, following an attack of so-called la grippe, he noticed a hoarseness which gradually increased until he almost completely lost his voice, being able to speak only in a loud whisper. About three months before entering the hospital he experienced difficulty in swallowing, feeling as if there were a lump in his throat which would burn and which apparently impeded the downward progress of solid food especially. Upon examination of the neck there was a noticeable thickening or fullness upon the left side with an involvement of the glands along the upper border of the hyoid bone.

The operation performed was Roetter's with some modifications, which consists of an incision from the upper border of the hyoid bone down the median line of the throat as far as the third or fourth ring of the trachea, and a cross incision extending along the lower border of the hyoid bone from the anterior margin of one sterno-mastoid muscle to the other. This incision extended through the skin and fascia, exposing the muscles. The larynx and upper four rings of the trachea were then cleared on both sides to the postero-lateral border. The trachea was then divided between the second and third rings completely across and the lower end freed from its attachments and a tracheal tube with a Hahn's extension introduced. Stay ligatures were then passed between the cartilages. These three, one upon each side and one in front, were left sufficiently long to be placed in the hands of an assistant, whose duty it was to keep the trachea well pulled up and maintain the

* Read before the St. Louis Surgical Society, March 9, 1904.

tube in position. During this stage of the operation the trachea was not attached to the skin, as is advised by some operators, but left free for two reasons: first, to allow of its being manipulated so as to prevent the entrance of blood into the lungs; and, in the second place, to allow a wider field for the succeeding steps of the operation.

An incision was then made through the thyro-hyoid membrane about the junction of the upper with the middle third, and the layers of this membrane divided until the mucous membrane was reached, which was seized with a pair of dissecting forceps and the pharynx opened. I will say here that unless one is thoroughly familiar with the anatomy of the part he will be very much surprised at the depth of the mucous membrane in this situation. When the mucous membrane has been opened the different layers of the thyro-hyoid membrane are divided laterally so as to expose the epiglottis, the upper border of which is seized and drawn out through the opening, and the upper border of the esophagus is divided over the arytenoid cartilage.

The field of operation is then transferred to the lower end of the incision, and the upper end of the trachea, which has been left attached, together with the cartilage and the trachea, is then separated from the esophagus and its removal accomplished. The upper end of the trachea is now attached to the skin, and the mucous membrane of the upper end of the esophagus and pharynx are united. The muscles are then brought together and, finally, the skin. This closes off the pharynx completely, leaving a funnel-shaped tube from the base of the tongue; and the opening below through which the trachea appears.

The operation required one hour and fifteen minutes and the patient was returned to bed in very good condition, speedily reacted from the effects of the trying ordeal and made a most excellent recovery, leaving the hospital on the fourteenth day.

For the first thirty-odd hours nothing was permitted to pass the lips except small quantities of water which were taken in and spit out immediately, the patient being nourished by the bowel. At the end of about thirty-six hours he was allowed a teaspoonful of broth, followed by a couple of teaspoons of sterilized water every hour. This was gradually increased until the fourth or fifth day, when he was allowed a cupful of broth every four hours, the bowel feeding being discontinued at this time. At the end of a week he was given solid food in the shape of the yolk of a hard boiled egg, soft toast, etc. On the eleventh day regular diet in full quantity was allowed. On the fourth day after the operation he said, "How much?" to his wife, who had addressed some remark to him in regard to food, and the next day upon my visit he addressed two or three words to me.

A CASE OF URETERAL DISEASE SIMULATING CYSTITIS,
WITH UNUSUAL TENESMUS FOLLOWING URETER
CATHETERIZATION.

By H. McC. JOHNSON, M. D., of St. Louis.

Mrs. X., widow, thirty-six years of age, whom I saw with Dr. Glasgow at the Mullanphy Hospital the middle of February, 1904, had presented symptoms of bladder disturbance for eight years. The subjective symptoms were all referable to the bladder, the patient never complaining of any pain or difficulty about the ureter or kidney. The condition came on suddenly with frequent and painful urination, the pain being prominent whenever a small quantity of urine collected in the bladder. Straining and bearing-down pains were marked at intervals. The frequency of urination amounted to six times during the sleeping hours, and eight to ten times during the day. The quantity for the twenty-four hours varied between forty and fifty ounces. A very slight albuminuria and a few pus cells constituted the only abnormality found upon examining the urine. Macroscopically there was a slight increase above normal of the sediment, while the supernatant fluid remained clear. Local applications to the bladder, especially of silver nitrate, were badly tolerated, and failed to benefit the patient. Occasionally an injection into the bladder immediately inaugurated severe tenesmus and pain, with considerable constitutional discomfort. This would occur apparently without explanation. Fever was never a feature. The only relief the patient ever obtained from her symptoms was for a short period following air dilation of the bladder and cauterization of what were regarded as ulcerated spots, which treatment, however, later failed to make any impression upon the disease.

By external abdominal palpation the right ureter could be distinctly traced from the brim downward into the true pelvis and almost as far upward as the kidney, appearing to be hard and about three-eighths of an inch in diameter as it rolled from under the pressure of the fingers. There was some tenderness in the lower segment. Some thickening could be distinguished in the anterior vaginal wall.

Following an injection into the bladder the first week in February there was such tenesmus and pain, with frequent urination, that it required considerable morphine to tide the patient over until the symptoms subsided.

When I saw the patient on the 11th of February, 1904, she had just recovered from this last experience, and was passing urine six times at night. It was decided to do a cystoscopy, and to catheterize the right ureter to exclude stricture and stone, and get the separate urine. On the 15th of February I cystoscoped the patient with a Nitze ureter catheterizing in-

strument, and finding the bladder, with the exception of a few spots of redness, remarkably healthy and free from disease, I turned my attention more closely to the ureteric orifices. The left orifice appeared healthy, but the right urêteric orifice was gaping open in an oblong fashion, about one-fourth of an inch by an eighth of an inch in diameter, and around it for perhaps one-eighth of an inch was a halo of redness. So far the patient had complained of no discomfort and stood the cystoscopy well. As the tip of the ureter catheter touched the ureteric orifice it set up a severe tenesmus, and as the catheter passed up the ureter, which it did easily and without obstruction, the straining became so severe that the perineum would bulge forward, almost simulating the bulging of the perineum during labor. The pain, too, was so intense that I had to give up the idea of leaving the catheter in the ureter for the purpose of collecting the separate urine, and immediately withdrew it. From this time on severe tenesmus was constant, and required large doses of morphine to give the patient any comfort whatever. This condition of straining and pain kept up for one week without abating. During the second and third weeks it gradually subsided, leaving the patient at the end of the third week in about the condition in which we found her at the beginning.

The interesting feature in this case is that the pain and tenesmus should be so severe without any evidence of intensified inflammation. The urine during the three weeks after the catheterization showed no appreciable increase in sediment and no evidences of inflammatory reaction, but the condition was simply one of exaggerated ureteral hyperesthesia. There was, however, some increase in the albumen, the kidney function evidently being disturbed through reflex action.

It is rather surprising that a ureter so thick to palpation, as felt before the catheterization and as confirmed afterward, should exist with no symptoms pointing directly to it with the exception of the tenderness. This case also illustrates one of those in which the symptoms are misleading. For eight years the case had been regarded as one of bladder disease and presented symptoms as such, and yet it is clear that the tenesmus and pain arose from the disease of the ureter, as evidenced by the comparatively healthy condition of the bladder and the fact that the minute the ureter catheter touched the ureteral mucous membrane the patient's usual symptoms were largely exaggerated. We may explain the fact that occasionally a bladder injection would cause somewhat the same train of symptoms by supposing that the injection at times would gravitate toward the right ureter and reflux into it.

The case was evidently one of tuberculosis of the right ureter, although we have not been able to demonstrate the bacilli as yet, and a guinea-pig which was injected is still under observation. The kidney, so far as could be ascertained by palpation, was unaffected.

EDITORIAL COMMENT.

PHYSIOLOGICAL CHEMISTRY AND BIOLOGY.

The great evolution that has taken place in modern methods of studying the processes of life was brought about by applying the teachings and principles of physiological chemistry to these processes. At first this was done tentatively and with some misunderstanding, as, for instance, in the functional investigation of kidney secretion, but very soon the view widened and embraced problems that formerly seemed inaccessible. The practical application of the measuring of the osmotic pressure of blood and urine, it must be admitted, has brought some results, but we must not forget that these results are not by any means the expression of a recognition of the function itself, and in this respect we must remember the utter failure of this method again and again, in that stage of secretion where the insufficiency is most pronounced, namely, in uremia. The osmotic pressure may give valuable hints as to the recognition of the existence of a diseased condition, but it alone will not explain this condition; it does not teach us everything about the molecular composition of a fluid and must be supplemented at least by finding its electric conductivity. What is necessary is to study life processes, not alone with regard to chemical structure, but with regard to the chemical dynamics and kinetics of these processes. The protoplasm of cells is the seat of constant reactions and the influence of diversified conditions on these cells is so far a *terra incognita*.

During the last few years the work of a great number of investigators has hewn the first trails into this mystery and has opened possibilities to a knowledge which heretofore seemed so absolutely barred. Constantly recurring vitalistic assertions show how near we have been to the point of confessing to an *ignoramus*. Lately we again begin to believe that ultimately we will understand life's processes with the same degree of sufficiency as to logic and causality as we do physical and chemical processes. Among these investigators stand in the first place those who have studied the nature of the action of salts on life processes. The essential importance of salts for the existence of life was long known, but the numerous theories offered in explanation of it show how far from the truth we were. Their action was designated as beneficial or toxic. Physical chemistry, however, has shown that salts do not act as salts but only in their dissociated form, as the atoms themselves which compose the salt molecule. These atoms are not the atoms as expressed in our chemical formulæ which are bound in a molecular combination, but are individual atoms and possessed by an electrical charge, the ones positive (kathions) the others negative (anions). In a solu-

tion these electrical charges balance each other; if a current is passed through it the anions wander to the anode, the kathions to the kathode, where they give off their charge and become the atoms of chemistry. In a sodium chloride solution the chlorine acts as the anion, the sodium as the kathion. It can be shown that the physiological effect of this salt depends altogether upon the anion, the negative ion. Salts of other metals either behave in the same way as those of barium or in an opposite manner, as potassium. Although at first glance it appears that thus the activity of the kathion is predominant, an opinion held by many observers, among them Jacques Loeb, it remained for A. P. Matthews to show that the difference is due to the variations in the tenacity with which the ions hold their electrical charges. In sodium chloride the anion parts readily with its negative charge while the sodium holds to its positive electron. Potassium chloride shows just the reverse affinities and cannot, therefore, have the same effect as sodium chloride. The different degree of affinity of the ions can be accurately measured and calculated by an ingenious method worked out by Matthews, and in a great number of processes in animals and plants others have found that the anions always assert a stimulating effect and the kathions are inhibiting. The degree of the effect depends only upon the degree of dissociation of the salt; for instance, bichloride is much more toxic than the mercuric cyanide, because the latter dissociates much less than the former. Intact molecules of these salts do not exert any action, for the reason that there are no free affinities.

No salt is known in which the electrical efficiency or affinity of the ions to the electrons is perfectly the same. The one always predominates, so that any single salt solution must necessarily prove to be irritating (stimulating or inhibitory) to protoplasmic activity. Protoplasm needs an electrical substratum for its life processes, in which there exists a potential equivalence of the positive and negative charges. Salt solution alone will make a frog muscle rhythmically contract for twelve hours (constant stimulation followed by depression and death), while the addition to the solution of a little potassium chloride will continue its life for twenty-four hours and longer (potassium as kathion predominant and neutralizing the affinities of the chlorine ions). A single salt must always be poisonous. The substratum in which the protoplasm works is disturbed by the addition of salts of a different electric affinity. The protoplasmic activity is thus influenced to greater activity (stimulation) by anions, to decrease in activity (depression) by kathions. This can be demonstrated for animal tissues and has been demonstrated for vegetable cells by Professor Greely.

The reason for the presence in every organism of small amounts of salts of different chemical composition is given by these ingenious investigations. The latter allow, on the other hand, suggestions as to the effect that the disturbance of this electrically balanced solution of those

salts must have on the condition of the organism. Matthews has practically applied this principle to the therapeutic use of salt solutions containing several salts in certain proportions, and has observed results that correspond completely with the theoretic considerations that suggested their use. This part of the subject may be dealt with separately some other time.

The importance of the work done by Loeb, and mainly of that of Matthews, goes much further than the investigation of the role that salts play in organic life. It has for the first time become clear that it is necessary to abandon the viewing of vital processes according to the formulae of inorganic and organic chemistry, but to search in them for the changes of the electrical balancing of the ions concerned. Electric stimulation is no longer an empiric procedure but will be established on a solid, scientific base. Fermentation, immunity and other specific vital phenomena will also come under the clearing influence of the work inaugurated by the classic researches of van't Hoff, Arrhenius, Oswald, and ingeniously applied to organic chemistry by others, among them in the front line Loeb and Matthews.

REFLECTIONS ON STOMACH SURGERY.

The brilliant article by Will J. Mayo, on resection of the stomach, which appeared in the March number of the *Annals of Surgery*, is sure to awaken renewed interest in this, one of the newer fields of surgical endeavor. One notes with surprise the amount of material which passes through the Mayo clinic in comparison with the volume which is seen by university surgeons in the great medical centers. Fifteen hundred cases have been examined at Rochester and 450 stomach operations performed. What this means can hardly be appreciated until the reader notes that the clinic at Zurich, Switzerland, during the entire tenure of Professor Kroenlein, has furnished only about seventy patients, even though this latter is a governmental station, and has at its disposal all of the influences which tend to concentrate large operative material.

Dr. Mayo states in this article that the technique proposed can be carried out by the average operator in from fifty-five to seventy-five minutes. Now, the writer is sure that the operation is done by the Drs. Mayo in even less time than this, since seeing William J. Mayo perform a suture gastro-enterostomy in exactly fourteen minutes by the watch, and his brother, Charles H., do the same thing in about the same time. The writer has further seen the elder brother perform an appendectomy through a gridiron incision with just ten minutes intervening between the first skin cut and the last stitch in the skin, everything having been done with extreme care and the abdomen closed in the usual four layers. It is only reasonable to suppose that men of such extensive operative experience, and of such natural mechanical skill, should somewhat over-

rate the abilities of the average operator. The writer has twice seen another western surgeon, who has an undoubted reputation for rapid operating, perform this operation of gastrectomy, and in each instance the operation required two hours for its performance, so it is all the more likely that the "average" operator cited by Dr. Mayo would require even more time than this.

Now, the thought that presses itself upon us is that the average operator should not attempt these operations at all, but that they should be done alone by masters of the art. Men of so much experience in this line and possessed of such perfect facilities in the way of assistance and surroundings, can do things which to them might seem not only possible but rational for the average operator to undertake; but it is more than likely that the average operator who has once attempted a gastrectomy will read with a certain degree of self-condemnation Dr. Mayo's opinion that the operation should be done by the aforesaid in fifty-five minutes to an hour and a quarter.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Ficker's Typhoid Reaction.—MEYER (*Berliner Klinische Wochenschrift*, No. 7, 1904) reviews the disadvantages of the Widal reaction, and sums them up as follows: (1) Inasmuch as the agglutinine does not appear in the blood for several days after the inception of the disease, the serum reaction often gives no clue at a time when the difficulty of diagnosis is greatest; (2) this reaction is not an absolutely specific one, but in a great degree relative. This is shown in the fact that the blood of some cases of undoubted typhoid never presents a positive reaction, while the blood of others that have never had typhoid gives a positive reaction; (3) the proper performance of the reaction requires complicated apparatus and very careful technique.

The Ficker reaction is intended to overcome this last objection by simplifying both the technique and the requirements. Ficker maintains that the agglutination takes place just as well in cultures of dead typhoid bacilli as in the virulent state. For his reaction are necessary only a suspension of typhoid bacilli, some physiological salt solution, a pipette and a few test tubes. A definite time is not necessary, as is the case with the Widal reaction. Five minutes usually suffice for a complete determination.

The writer, in order to determine the value of the Ficker reaction as compared with the Widal reaction, carried on a series of examinations with the blood of typhoid and non-typhoid cases, with the blood of the living and the dead, and with the blood of animals. He found the results of the two reactions practically identical, and concludes that "the Ficker reaction not only leads to the same results as the original Widal reaction, but for theoretical and practical reasons is to be preferred, and is, therefore, to be highly recommended to clinicians and practitioners."

Clinical Observations Concerning the Gruber-Widal Reaction.—KREISSL (*Wiener Klinische Wochenschrift*, No. 5, 1904) arrives at the conclusion that a positive result of the Widal reaction points with great probability to the existence of typhoid fever, providing the existence of a previous typhoid can be excluded. The negative reaction does not speak with absolute certainty against typhoid. The procedure has special significance in the recognition of light cases that do not permit of a diagnosis from the clinical symptoms alone.

The writer's own experience seems to justify the conclusion that the Widal reaction is an early diagnostic aid.

No conclusions as to the character or severity of the disease can be drawn from the degree of agglutination.

The highest agglutinating power is reached in the third week—*i. e.*, in the stage of febrile decline, and gradually decreases. The cultivation of typhoid bacilli from the roseola spots gives fairly good diagnostic results.

Examination of the Blood of Pneumonia Patients for Pneumococci.—KINSEY (*Journal American Medical Association*, March 19, 1904).—The contradictory results obtained by various investigators concerning the presence and significance of pneumococci in the blood of pneumonia patients prompted the writer to carry out a series of investigations. Some have found them in every case examined, irrespective of the outcome of the disease, while others find them but rarely, and only in fatal cases.

The writer examined a series of twenty-five cases, and found pneumococci present in nineteen of them, or 76 per cent. The cases in which the results were negative were not favorable cases for the test, because the time proximated the crisis. The writer believes, therefore, with Fraenkel and Prochaska, that the pneumococcus may be found in the blood of every pneumonia patient, and attributes negative results to unfavorable conditions for growth.

He believes that their presence in the blood is of no prognostic importance whatever. Of the nineteen positive cases in the series, 69 per cent. recovered and 31 per cent. died, while of the negative cases 33 per cent. recovered and 67 per cent. died.

Secondary Parotitis in Pneumonia.—PILCHER (*Wiener Klinische Wochenschrift*, No. 49, 1904) considers parotitis in pneumonia of sufficient rarity to justify his reporting the case which he had occasion to observe. He reviews the literature carefully and finds but few cases reported. The purulent fluid from the parotid in this case contained large numbers of diplococci, to all appearances identical with the pneumococci. Careful bacteriological examinations to determine their nature were not made.

Acute Complicated Obstruction of the Ductus Choledochus.—FINK (*Wiener Klinische Wochenschrift*, No. 49, 1904).—When icterus develops suddenly, following a gall-stone colic, and persists for a time, in other words, an acute obstruction of the ductus communis choledochus exists the rule is to defer operation. Surgeons, themselves recommend in such cases, that surgical interference be deferred.

The writer reports his experience in a case in which icterus persisted for four weeks and disappeared at the end of that time. A few days later it reappeared together with acute symptoms, pain, fever, etc. The patient died with symptoms of perforation, which the autopsy afterwards revealed.

The clinical picture of this case may be divided into four stages: the first, a period of four days, during which there was severe pain without fever or jaundice, represents the passage of the stone from the bladder through the cystic duct; the second began with the development of acute icterus and high fever, and represents the recurrence of the com-

plete obstruction of the common duct: the third stage, characterized by the disappearance of the acute symptoms with persistence of jaundice, represents the period during which the stone lay in the common duct; while the fourth stage, marked by the sudden development of acute symptoms, and the death of the patient, represents the perforation of the duct by the stone and the entrance of the contents of the bladder into the peritoneal cavity. The writer points out the importance of the most careful observation of similar cases, with a view to determining, if possible, the exact indications for surgical interference.

Hernia Intravesicalis.—BLUM (*Wiener Klinische Wochenschrift*, No. 8, 1904) reports in this article the first case of intravesical hernia ever diagnosed during life. It occurred in a young man of twenty-three, whose chief complaint was that of chronic incomplete retention of urine.

The cystoscope revealed the hernia in the top of the bladder protruding into the abdominal cavity. Distinct peristaltic waves could be seen in the bottom of it. Through contraction of the muscle fibers in the wall of the bladder, which act as a ring, repeated temporary incarcerations may occur. This condition occurs often enough to be considered in the presence of indefinite bladder symptoms, pain, retention, etc.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

An Apparatus for the Production of Active Hyperemia.—BIER (*Muench. med. Wochenschr.*, No. 6, 1904).—It has been definitely established that a local, active hyperemia often yields extremely good results in the treatment particularly of chronic joint affections. Bier obtains this hyperemia, not as is usually done by means of hot, dry air, but by means of rarified air. For this purpose he has constructed a suction apparatus of glass, into which the joint to be treated is inserted. By means of one or more rubber cuffs the joint is enclosed air tight in the glass cylinder, from which then the air is evacuated by means of a pump similar to that used by bicycle riders for inflating tires, but acting in an opposite direction. The joint is thus put in an atmosphere of very low pressure and immediately becomes extremely hyperemic. Care must be taken not to exhaust the air too severely as rupture of the blood vessels may take place. By means of an ingenious contrivance gymnastic movements of the stiffened joint may be carried out within the apparatus, and so an increased mobility be obtained. The treatment has yielded good results in the discoverer's hands in cases of chronic arthritis, tuberculous joints and old sprains. He has devised a variety of patterns applicable to the hands, feet, elbows and knees. Technical difficulties have prevented its application to the shoulders or hips.

Vomiting of Pregnancy.—OELSCHLÄGER.—(*Zentralbl. fuer Gyn.*, No. 6, 1904).—The writer believes he has found in the administration of tr. nuc. vom., in combination with sodium bicarbonate, a sovereign remedy for the vomiting of pregnancy. Where abortion must nevertheless be induced, he brings about the latter by the injection of three grams of tincture of iodine into the uterine cavity.

Feeding by Means of Subcutaneous Injections of Albumen.—CREDE (*Muench. med. Wochenschr.*, No. 9, 1904).—An unnatural, or, as Leube calls it, an extra-buccal, feeding can take place in three ways: First, by means of the stomach tube or a gastrotomy opening directly into the stomach. This method, often very useful, presupposes relatively normal stomach, intestines, etc. Secondly, we may feed per rectum. In all cases, however, this method is insufficient and occasionally, as where the rectum is very irritable, cannot be used at all. The third method is the subcutaneous route. Hitherto only fats and carbohydrates have been given in this manner; the hypodermic administration of proteids has met with insuperable obstacles.

In order that it may be safely given subcutaneously, a proteid must fulfill the following conditions: (1) It must be soluble in water; (2) it must be sterilizable by means of heat without undergoing alteration; (3) it must produce little or no reaction at the site of injection; (4) it must be assimilable and fit to be used for the building up of protoplasm—that is, it must not be excreted unused through the kidneys, and (5) it must not be toxic, in particular, must not cause nephritis.

Of all known proteid preparations, the only ones that fulfill these conditions are somatose and Heyden's food (Nährstoff Heyden), and that only when so greatly diluted that the nutritive value of the solution is slight. After many trials, Crede found the substance he was looking for in a preparation called kalodal, made by the Heyden company. It is prepared from meat, contains 95 per cent. easily assimilable proteid, traces of extractives, phosphates and iron and 0.2 per cent. salt. It dissolves readily in water, forming a yellowish-brown solution, is almost odorless and tasteless, slightly alkaline and readily sterilizable without undergoing alteration. The 10 per cent. solution is perfectly fluid; more concentrated ones are slightly viscid.

Crede tried the subcutaneous alimentation with kalodal upon a large amount of clinical material, chiefly individuals who were nearly unconscious from severe hemorrhage, cases of advanced peritonitis and ileus that could be fed neither per os nor per rectum, cases of esophageal or intestinal cancer, and, finally, cases of persistent vomiting after operations. His usual dose was 5 grams kalodal in 50 c.c. normal salt solution. This was either injected directly or added to 500 c.c. normal salt solution where a large saline infusion was also indicated. This amount of kalodal corresponds about to the proteid in one egg, and if given four or five times daily represents no small amount of nourishment, and may well serve to tide the patient over the critical period of his illness. Crede gives no detailed histories, but is quite certain that the results of kalodal injections are satisfactory, sometimes very strikingly so. They are, of course, not indicated in chronic cases of inability to take food, but where our task is to tide a patient who cannot be fed in the normal man-

ner over a few critical days, this new proteid preparation may well be of value.

Medicinal Treatment of Neuralgias and Myalgias.—E. MEYER (*Berliner klin. Wochenschr.*, No. 6, 1904).—The writer has been in the habit of administering hydrochinon in doses of 1 to 4 grams daily for neuralgias and myalgias. In only one case were unpleasant after-effects observed. He reports a number of cases, in some detail, that indicate a striking efficacy of hydrochinon in these conditions, even where other drugs had been tried without avail. In cases of articular rheumatism hydrochinon appeared useless.

How to Use Mesotan.—LUDWIG WEIL (*Muench. med. Wochenschr.*, No. 7, 1904).—A number of communications have been published recently pointing out unpleasant complications following the use of mesotan. These can always be avoided if the following precautions are observed:

1. Above all, mesotan should never be used pure, but always mixed with equal parts of olive oil.
2. This mesotan-oil should never be rubbed in vigorously, as is so often done, but should only be spread or painted on the affected joints several times daily.
3. As soon as the first signs of a dermatitis appear, the applications should be interrupted. Where the drug is to be used for some time, it is well to use it on only a portion of the affected joints in rotation.
4. It is an error to apply a firm bandage, still less an impermeable rubber or oiled silk dressing over the mesotan. The joints under treatment should either be left uncovered or at most wrapped in flannel.
5. Finally, the druggist should be cautioned to use only thoroughly dry vessels in dispensing mesotan. Moisture causes a splitting up of the salicylic ester with the formation of irritating compounds.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

The Prevention of Pneumothorax During Intra-thoracic Operations.—SAUERBRUCH (*Cent. fuer Chirurg.*, No. 6, 1904).—This extremely interesting article demonstrates that both pleurae can be opened simultaneously without serious damage to the patient, provided the whole procedure be carried out under conditions of atmospheric pressure less than that ordinarily obtaining within the air passages. The author's first experiment consisted in placing the animal, all except the head and his own hands, within an air-tight glass cylinder, from which the air was then partially exhausted. He found that he could, under these conditions, open both thoracic cavities with impunity and without the lungs collapsing or the animal's respiration being greatly disturbed. In this

way it was possible to cut away the ribs, sternum and entire bony wall of the thorax without the respiration being impaired. During the experiment the apparatus got out of order, air rushed in and the animal very promptly succumbed, thus proving in a negative way the success of the experiment.

The author's second experiment consisted in building an air-tight chamber large enough for the operator, his assistant and the body of a large animal. From this, as from the first, the air was partially exhausted and then all sorts of operations performed on the chests of large dogs. In this way it was possible to operate two hours at a time without any serious consequences either to animals or surgeons. The only unpleasant feature of the experiment was that the temperature within the chamber rose so high as to be almost unbearable, and this in spite of the fact that the rarefied air was being continually changed by an air pump. The most extensive operations were done in this way without any apparent influence upon the vitality of the animals.

Extraction of a Foreign Body from the Bronchus.—RICARD (*Gazette des Hopitaux*, No. 23, 1904).—The mortality which has attended the impaction of foreign bodies within the bronchus is said by the author to have been 56 per cent. where no operative procedure was attempted. Performance of simple tracheotomy reduced this to 30 per cent., and now modern surgery with its widened field bids fair to lower even this per cent.

Various authors have proposed to open the anterior and posterior mediastina, the latter appearing to be the favorite on account of being less dangerous than the other. However, such methods of attacking the bronchus directly are no longer to be entertained, since we know that foreign bodies may be extracted through the trachea or, in some instances, through the larynx directly.

The patient in question was a boy of three and one-half years who was playing on the carpet one day and on attempting to swallow a tack managed to inspire it into some portion of the bronchial tree. An x-ray picture showed it to be in the left bronchus, and the author managed to extract the same with a specially devised forcep, which he introduced into a long speculum which entered the bronchus through a tracheotomy sound. It is interesting to know that the tack was very rusty after having lain for fifty-seven days in the bronchus.

Goiters Inside of the Larynx and Trachea and Their Removal.—VON BRUNS (*Beitrag zur. Klin. Chir.*, Band 41, Heft 1).—The rarity of this disease is such that only eleven cases have ever been noted, five of them at the hands of our author. Three of these cases he operated upon. The article recites the history of all eleven cases and they make interesting reading to be sure. The period of growth, at about the age of puberty, is about the same for these as for ordinary goiters. Where growth was noted within the air passages it was always an accompaniment of an enlargement of the thyroid itself. The symptoms were so typical in all cases that the author believes one should not fail to recognize such a growth when found. The diagnosis can rarely be in doubt, when in an otherwise healthy young person gradually increasing dysp-

nea occurs, and when at the same time a small, flat, sub-glottic tumor can be seen on the posterior or side wall of these structures. For a long time there existed only the vaguest theories as to the cause of such manifestations, but now it has been definitely proven that these intra-tracheal growths are simply small portions of the thyroid that have gradually grown in between the rings of the trachea and developed under the mucous membrane. In every case where careful examination has been made a direct connection has been found between the tissues within and that lying without. The cause is believed to be an early and very firm agglutination of the thyroid to the trachea. Prognosis depends to a great extent upon the question whether or not the little tumors cause respiratory difficulty. In the author's five cases it was possible by opening the air passages to completely remove the little tumors with knife, scissors and galvano-cautery.

Radical Operations for the Cure of Cancer in the Pyloric End of the Stomach.—W. J. MAYO (*Annals of Surgery*, March, 1904).—Dr. Mayo certainly voices a long-felt want when he urges earlier diagnosis in stomach troubles, and he would very properly have this done principally by the intelligent interpretation of clinical phenomena, to which a proper amount of significance has apparently not been given in the past by internal medical men. Mayo says we have been misled into considering stomach troubles inoperable from the radical standpoint of laboratory methods, by a palpable tumor and by the history of previous ulcer. He considers this latter feature, gastric ulcer, to be one of the greatest importance, believing that a larger number of gastric cancers have their origin in ulcers than is usually supposed to be the case. The two things which govern the matter of operability are local extent of the disease and lymphatic involvement. Dr. Mayo has somewhat modified the views recently expressed by him on the amount of stomach to be removed, since Curao's anatomical researches on the stomach have come to be regarded as standard authority. He now removes all the lesser curvature but less of the greater curvature than was formerly considered necessary, since this can be done, giving the patient a better chance to survive the operation and still allowing of the complete removal of all infected glands.

Mayo's incision is in the median line and the actual operation is commenced by the ligation of the four arteries which supply the stomach. Then rubber-covered clamps are used to close the hollow viscera which are left, the division being commenced at the duodenum and the operator working to the left. He makes a direct connection between the closed ends of the viscera only when this can be done without the slightest tension. He usually finds it more feasible, however, to make a gastro-jejunostomy.

The technique proposed in this article has given decidedly better results than any used up to date, no one of the last eleven cases having died. To appreciate the plan of the operation it is of course necessary for the article to be read in the original.

The Final Results of Uranoplasty.—RANZI and SULTAN (*Archiv. Klin. Chir.*, Bd. 72, Hft. 3).—The material which is embraced in this article

consists of 105 cases from the clinic of Prof. von Eiselsberg in Vienna; consequently the results obtained are of considerably more than the usual value. Of these cases, an absolutely normal voice was regained in 10 per cent., a decided improvement was noted in 69 per cent., and no improvement of the voice occurred in 21 per cent. The intelligence of the patient plays a great role in this particular, as does education of the voice, it being possible to accomplish a great deal in almost any case under proper circumstances and surroundings. Of course, a perfect functional result can easily be obtained in an infant; still the mortality is so high in these cases that it more than counterbalances the results which accrue from the operation. An absolutely perfect result was obtained in a boy of seventeen in which voice culture was instituted. Hence, very early operation is to be recommended only in very strong children.

The Surgical Importance of the Accessory Ligaments of the Liver.—ANCEL and SENCERT (*Archives Provinciales de Chir.*, No. 2, 1904).—The authors go at some length into descriptions of the hepatic ligaments which are formed by reduplication of the peritoneum over blood vessels, etc. The most important points which they note in this connection are as regards these ligaments and their influence upon the operations which are done upon the biliary passages. As is well known, these so-called ligaments divide the vicinity of the liver into pockets, and may be of incalculable value to the patient by localizing what would be otherwise a general infective process. These ligaments guide us further in seeking certain anatomical structures. For instance, it may often be difficult to find the foramen of Winslow unless we follow the course of the cystico-epiploic ligament, when we cannot possibly be deceived in our search. The article deals so extensively with the various points that it is not possible to do more than mention them in a review of this kind.

A Safe Method of Performing Jejunostomy.—KELLING (*Cent. fuer Chir.*, No. 5, 1904).—The simple and effective procedure proposed by the author consists in cutting into the jejunum and anastomosing the end of the upper portion into the side of the lower part; then the end of the lower part, which is left free by this procedure, is closed, first, by a simple ligature, and then by several rows of purse-string sutures in very much the same way that the end of the cecum is closed after the removal of the appendix. After the first purse-string suture is tied, a rubber catheter is pushed into the gut through a small slit just at the side of the first purse-string suture, and then several other purse-string sutures are placed around the gut, one above the other, some of them piercing the tube to hold it in place, and all surrounding it, when they are tied to further and further invaginate the tube into the end of the gut and thus prevent any leakage. The last purse-string suture is tied in the abdominal wall, and thus the peritoneum is closed.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

The Origin of the Plasma-Cells.—LEO EHRLICH (*Virchow's Archiv.*, Vol. 175, H. 2).—In Unna's laboratory, the place where Unna's plasma-cells were born, this paper was prepared. Ehrlich, by means of Unna's and Pappenheim's methods modified to a degree, thinks that he has found unmistakable evidence of the histogenetic origin of these cells. His opinion is that plasma-cells are derived from hypertrophic connective tissue cells by transformation, budding or division. The pictures published with the article seem at first glance convincing, but on closer inspection arouse the suspicion that phenomena of juxtaposition of different cells have deceived the author. For purposes like this sections of ten micra in thickness are hardly sufficient, and without any closer regard to the mode of development of the nuclei of the buds (the plasma-cells) a decisive interpretation cannot well be given. Unna's school adheres to Ehrlich's doctrine, that lymphocytic elements have no motile power and cannot penetrate through the capillaries. It seems that this doctrine is finally abandoned, and that at least part of the so-called round-cell infiltration must be considered as of hematogenic origin. To call all of the typical small lymphocytic elements forming so many inflammatory deposits daughter cells of the plasma-cells seems impossible as long as we believe that we can differentiate various forms of cells by their morphologic and tinctorial qualities. It is much easier in studying suitable tissues to see seeming transitions from lymphocytes to plasma-cells, than from the latter to the former. Investigations like that of Ehrlich cannot definitely solve such a question by looking for transition stages.

About Active Immunization of Human Beings Against the Typhoid Bacillus.—K. SHIGA (*Berl. Klin. Woch.*, No. 4, 1904).—While active immunization against typhoid infection was practiced only (Wright) by the use of bacilli killed by heat, a method that on account of the sometimes serious symptoms observed in the vaccinated individual cannot be recommended as a routine procedure, Shiga was instigated by his former observations, made together with Neisser on the production of free typhoid receptors, to use these for immunization. These free receptors were obtained by emulsifying twenty-four-hours agar cultures of the typhoid bacillus in physiologic salt solution (0.9 per cent.), heating these emulsions for one hour to 60° C., and then to allow them to digest or undergo autolysis for two days at incubator temperature (37° C.). The filtered emulsions were used as vaccine. The author himself and a colleague served for the experiments; their serum was examined for agglutination and bactericidal power before and at certain times after the injection. The latter (0.25 to 0.5 c.c.) was borne without the slightest reaction or inconvenience. The agglutinative quality of the serum, before the injection absent (dilution 1:10), rose within eight

days after it to 1:640. A year later it had decreased to 1:60. In the same way a very energetic bactericidal quality was developed. The experiments made are few in number, but very promising as to a way in which easily and without doing harm a pronounced and seemingly lasting immunity against typhoid bacilli may be obtained.

Protozoon-like Bodies Found in Four Cases of Scarlet Fever.—F. B. MALLORY (*The Jour. of Med. Research*, Vol. x, January, 1904).—Mallory has found in four cases of scarlet fever (early stage), in and between the epithelial cells of the skin and free in the lymph spaces and vessels of the corium bodies, bodies that to a degree suggest they may be of protozoon nature. The bodies vary from two to seven micra in diameter, and can be stained with methylene blue. They form a series of stages, including the formation of definite rosettes with numerous segments, which are closely analogous to the series seen in the schizogonic development of the malarial parasite. In addition, there are certain coarsely reticulated forms, possibly representing stages in sporogeny or of degenerate character. The illustrations accompanying the paper show very characteristic pictures of this organism, that the author calls Cyclaster Scarlatinalis. Although he does not absolutely assert that the organism is a protozoon, or that it is the etiologic factor in scarlet fever, he seems to be inclined to hope that further investigations will confirm his suggestion. It must be said that so far the mere finding of these bodies in cases of scarlatina can, of course, not be conclusive as to the part they play in the infection.

New Method for the Study of the Cellular Elements of the Blood and Other Fluids Containing Such Elements.—L. BARGON and CL. REGAUD (*C. R. de la Soc. de Biol.*, November 14, 1903).—To what degree of misconception the conclusions drawn from the study of cells dried to slides and fixed can lead has only lately been shown by the work of Schaudinn, Argurowsky and others, on the malarial parasites, and also by the recent publications about the shape of the mammalian red blood corpuscles (bell jar shape). Although our blood-slides, if properly prepared, appeal to the esthetic sense and at the same time, by the uniformity of their beauty, inveigle the belief that they represent the real state of their constituent elements, a comparison with any well-fixed section of tissue is bound to show the incorrectness of this belief. Our blood-slides show only artefacts. Schaudinn and some French investigators have succeeded in devising a method in which to fix and prepare single cells with the same accuracy and the same near approach to the living state as can be done for tissues. This method, however, is laborious, and needs a very great familiarity with the difficulties to succeed. In an ingenious way the problem has been solved by Bargon and Regaud, who take up a drop of blood (or a drop of the precipitate of a cell containing fluid) with a fixing solution. The whole is brought into a small test tube, allowed to sediment, is washed and dehydrated in the same tube and finally to the sediment is added some collodion. This, together with the sediment, is spread over slides, hardened in alcohol and can then be treated with the various methods of staining, etc., like any tissue section. The results of this method are surprising and instructive.

and will help to clear up many questions which, on account of the incomparability of cells in dried spreads and in sections of well fixed tissue, have been a matter of much discussion and controversy. The reviewer has used the method for some time with very interesting results.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

The Condition of the Uterine Appendages in Cases of Fibroma of the Uterus.—C. DANIEL (*Revue de Gyn. et de Chir. Abd.*, 1903, No. 1; rev. *Centralbl. f. Gyn.*, 1904, No. 1).—The author claims that in 59 per cent. of all cases of myomatosis of the uterus the tubes show pathological changes, such as catarrhal, parenchymatous and purulent salpingitis, hydrosalpinx and hematosalpinx, tuberculosis of the tubes and ectopic pregnancy. In 40 per cent. of the operated cases, pathological changes were present in the ovaries, consisting of cystic degeneration, tumors, suppuration and tuberculosis. Similar conditions were found in the broad ligaments.

In the writer's opinion three causes may be assigned as of main importance in the pathogenesis of these conditions: (1) Infection. (2) A fibromatous diathesis. Certain vascular changes produce an exaggerated formative activity of the cells, which leads to a hypertrophy of all muscular tissues of the genital apparatus. (3) A direct mechanical influence of the uterine tumors. By stagnation and inflammation, due to pressure, hydrosalpinx or hematosalpinx are produced.

These conditions are, as a rule, diagnosticated only at the time of operation. It would seem advisable, however, to think of them whenever a patient with uterine myoma complains of pain in the lateral fornix. In the writer's opinion the frequency of sterility among myoma patients can easily be explained by the frequency of these complications.

Malignant Degeneration of the Cervical Stump After Sub-total Hysterectomy.—L. G. RICHELLOT (*La Gynecologie*, October, 1903; rev. *Journ. of Obstetr. of Brit. Emp.*, January, 1904).—Richelot considers that all that can be said in favor of supravaginal hysterectomy can also be said of total hysterectomy. The latter takes no longer in performing and causes no more bleeding. The dangers of vaginal infection can be easily avoided. If the vagina is infected, so is the cervical canal. There are cases certainly in which the sub-total hysterectomy is preferable (if the uterus for certain reasons cannot be well lifted out from the pelvic cavity), but as regards technique and immediate results there is nothing to choose between the two methods. The stump, which is left behind, may, however, become the seat of malignant degeneration, carcinoma or sarcoma. This is not a common occurrence, but it is met with in a certain number of cases. The writer observed three cases in his own practice, and has collected ten other well-authenticated cases from literature.

Richelot concludes his interesting paper with a critic of the modern tendency of advocating simple myomectomy. In his opinion the fibromatous uterus is not simply soil on which malignant tumors *may* grow; it is *the* soil on which they *do* grow.

Exploratory Hysterotomy.—F. LEJARS (*Semaine Medicale*, Paris, Vol. xxiv, No. 2; rev. *Journ. A. M. A.*, February 13, 1904).—The writer comments on the necessity for direct inspection of the inner surface of the uterus in puzzling cases of hemorrhagic metritis. By this means discovery of some unsuspected fibroma or polyp will clear up the diagnosis and make it possible to cure the morbid condition with a trifling operation. The cervix is drawn down as for a vaginal hysterectomy, and is incised on the anterior median line, which avoids the cutting of vessels and bleeding. The incision must be carried beyond the internal os in order to expose the interior of the uterus. Several French gynecologists have recently mentioned the great value of this simple and harmless little operation as a routine measure in puzzling cases. The exploratory incision is always sutured at once.

The Fate of the Ovum and Graafian Follicle in Premenstrual Life.—THOS. G. STEVENS (*Journ. of Obstetr. and Gyn. of Brit. Emp.*, January, 1904).—Stevens studied the retrograde changes of ova and Graafian follicles during the premenstrual life, basing his conclusions upon the microscopical examination of seventy pairs of ovaries, removed in the post-mortem room from children younger than ten years. The author confirms the generally accepted teaching that ovulation occurs before menstruation makes its first appearance. Graafian follicles and ova mature in premenstrual life by a constant, well-marked series of changes. The ovum, however, never reaches the same size as that of an adult female.

The size of the mature Graafian follicle is variable, the diameter being, as a rule, about one millimeter or a little less. The ovum is removed by a process of phagocytosis, but may, however, undergo a simple necrobiosis. The phagocytic agents are the cells of the membrana granulosa. The follicle eventually contracts by means of granulation tissue formed in its fibrous tunica, which latter absorbs the remains of the membrana granulosa and liquor folliculi.

In the present state of our knowledge of the function of the ovary we are forced to conclude that this organ plays a dual role, namely, that of supplying the ova and the products of some internal secretion. It is clear that the supply of sexual cells is unnecessary in infants, and so the follicles do not burst, but it is probable that internal secretion plays an important part in the development of the female child.

Affections of the Female Genitalia Due to Vaccination.—G. LOEWENBACH and A. BRANDWEINER (*Monatsh. fuer Prakt. Dermatologie*, Bd. xxxvi).—A vaccine pustule may by accidental infection lead to the formation of similar pustules in either the vaccinated or another unvaccinated individual. Non-vaccinated wet-nurses, nurse girls or nursing mothers may in this way acquire vaccine sores on their eyes, mouth, tongue, breasts, etc. The writers describe five cases in which the infection was localized

on the genitalia. As sources of the accidental transmission of the vaccine virus have been found the following: Use of the same towel, sleeping in the same bed with the freshly vaccinated child. In one case the infection was produced by the physician, who, after changing the bandage on the vaccinated arm of the child, carelessly made a vaginal examination of the mother without washing his hands.

During the first (pustular) stage the sores resemble pemphigus vulgaris or vegetans, eczema and herpes genitalis; during the second (ulcerative) stage especially they resemble syphilitic papules and aphthæ.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

A Clinical Study of Sixty-two Cases of Intestinal Infection by the Bacillus Dysenteriæ (Shiga) in Infants.—LA FETRA and HOWLAND (*Arch. of Ped.*, March, 1904) report the results of their study of sixty-two cases of infantile diarrhea in which *B. dysenteriæ* was found. The cases were all ambulatory ones, seen in the Vanderbilt Clinic in the summer of 1903. The severer cases were also seen at their homes on the days when they did not come to the clinic. When a child was brought with a history of diarrhea the attempt was made, by the insertion of a thermometer or a suppository, to obtain a stool. These stools were caught on sterile cotton, and at once taken to the bacteriological laboratory. Even cases of mild diarrhea and intestinal indigestion were examined.

As a routine measure the use of cow's milk was at once stopped in all cases; in breast-fed babies the nursing was forbidden for a time. Barley water, rice water, or broth, was substituted for the milk. Free catharsis was obtained by calomel or castor oil; other drugs were rarely used.

Eight of the patients were under three months, fifteen were between six and nine months, nine were between nine and twelve months, and fifteen were over one year. Proportionately speaking, the severe cases were more frequent in the older children, but in this series a majority of the mild cases under six months of age occurred in breast-fed babies.

There were fourteen severe cases; of these, one was breast-fed, five were given condensed milk, two Straus' sterilized milk, two grocer's milk, three fairly clean bottled milk, and one not stated.

In the whole series there were fourteen cases which had been entirely breast-fed, while two were partly breast-fed; eleven children had been fed on grocery milk, seven on bottled milk of fair quality, eight on condensed milk, five on proprietary foods without milk, five on sterilized milk, four on general diet; no statement in regard to seven.

The points specially emphasized by the authors as the result of their study of these cases are as follows:

1. The unexpectedly great prevalence of the dysentery organism in

cases of diarrhea, at least during the summer months. Of sixty-four cases examined consecutively at the Vanderbilt Clinic, sixty-two were positive. This result is all the more striking when it is remembered that all the cases were seen in dispensary practice, where, with the severest cases, the very mildest may also be seen. It is to be noted that most of these cases were seen early.

2. All types of diarrheal diseases, as characterized by their clinical symptoms, were found among these cases, running from the mildest intestinal indigestion to the severest ileo-colitis.

The course of the disease, while usually short, was prolonged in eight cases.

3. Taken as a whole, the cases must be classed as mild. There were four fatal cases, all under one year of age, all artificially fed and in poor condition, and also having the poorest care and attention.

For the low mortality the authors consider two factors to be of some importance: (*a*) the cool summer, and (*b*) the increasing knowledge among the tenement population of the care of infants and their food.

4. The striking number of breast-fed babies, fourteen in sixty-two—over 20 per cent. Not one of these fourteen children was even moderately ill, and not one of these cases would have been sent to a hospital. The stools in these cases were examined as a routine procedure, and this probably accounts for the large proportion of this class of cases.

5. The serum treatment (given in ten cases) was not used sufficiently to warrant any conclusions. While of apparent benefit in some cases, there were others in which no effect whatever was noticed.

Hernia in Young Children.—DE GARMO (*Med. Record*, February 13, 1904) says that the most important predisposing cause is defective development, owing to imperfect descent of the testicle. The consequent lack of obliteration of the canal of Nuck allows protrusion of some of the abdominal viscera into the cavity of the tunica vaginalis, and hernia is thus established.

Of the direct exciting causes of hernia in children the author considers constipation, with resulting increase of tension on the abdominal wall, as of great importance. Whooping-cough, bronchitis, excessive crying and tight belly-bands are other causes.

In 2000 cases of hernia in the author's clinic, 985 occurred in children under fourteen. The forms met with in childhood are: inguinal, umbilical, ventral and femoral, their frequency being in the order named.

The symptoms of hernia in early life correspond, in their essentials, with those as seen in adult life. Pain, though not common, is more frequently seen than in adults. Hernia in children certainly causes more gastro-intestinal disturbance than it does in later life.

Treatment, by the application of a suitable truss, should be begun as soon as the hernia is discovered. If this be done, very little surgery will be needed in infancy.

Even strangulated hernia in infancy can often be reduced by proper manipulation under anesthesia, although it has been shown that strangulated hernia may be successfully operated at a very early age, even as

early as the eighth day of life. Strangulated hernia is certainly not as dangerous in infancy as in later life. In Thorburn's series of 110 cases there was a mortality of 24.5 per cent., but the ten infants in the series all recovered.

The relative importance of symptoms of strangulation in infancy is thus stated by Dowd: Tumor, vomiting, constipation, difficulty in urinating, restlessness and apparent pain, and constitutional depression.

The probable points of constriction in a strangulated hernia in infancy are, in the main, limited to two. One is at the external abdominal ring, the constriction being by the fibrous tissue which abounds in that region. The other is in one of the white, fibrous rings or bands which are often found in the sacs themselves. These bands, which are two or three times the thickness of the rest of the sac, are very tough and inelastic, and may be found at any part of the sac. They are most common in childhood, but may be found in adult life.

In operating for the relief of strangulated hernia in infancy or early life, it is of great importance that a closure of the parts be so made that a permanent cure may be effected. With reference to the question of operation for hernia in young children, the author believes that the prejudice against operation is rapidly disappearing, now that the operation has been shown to be both safe and successful. At the same time it is not to be forgotten that 90 per cent. of children under three years can be cured by mechanical means and proper care. After the child passes its sixth or seventh year, cure without operation is very rare.

The author tabulates the indications for operation in early life as follows:

1. Strangulated hernia—immediate operation.
2. All cases not controlled by truss.
3. Occasional protrusion with threatened strangulation.
4. When truss-wearing causes pain.
5. On children who cannot be brought regularly for attention.
6. In all cases of femoral hernia.
7. On all children over seven years of age.

The Relation of Measles and Tuberculosis.—GREZE (*These de Paris*, 1903; *Arch. de Med. des Enf.*, February, 1904) comes to the following conclusions, as the result of his study of the subject:

Cases of pre-existent latent tuberculosis are usually aggravated, especially in early childhood, by the advent of an attack of measles. Old tubercular foci, most often situated in the tracheo-bronchial glands, are often stimulated to renewed activity, and the way is thus paved for a generalized tubercular process.

Manifest tuberculosis, occurring at any age of childhood, is always greatly aggravated by an attack of measles, which hastens the destructive bacillary process, by weakening the organism, and by directly affecting the lungs.

Measles does not create tuberculosis, but it prepares the soil by its distinctive lesions, and by the general weakness which it induces. It therefore puts the organism into a state of receptivity for the bacillus; hence it is well to keep children with measles away from tubercular patients, or from places where such patients are being treated.

With reference to the effect of tuberculosis on measles itself, it is noted that in early childhood the periods of invasion and eruption are shortened, that the eruption is not well marked; that, by contrast, the fever and pulmonary symptoms are particularly intense.

In later childhood, tuberculosis does not modify the classical course of measles.

The Fatality of Whooping-Cough.—ELIZA ROOT (*Pediatrics*, February, 1904) calls attention to the fact, frequently overlooked by the profession, and not recognized by the laity, that the mortality from pertussis is nearly as great as that from scarlet fever. Figures taken from the records of nine of the principal cities of the country showed a mortality (for one year) of 1266 from pertussis, and of 1437 from scarlet. The author calls attention to the fact that the after-effects of pertussis are at times decidedly serious. Lesions of the central nervous system, visual disturbances of severe degree and even complete deafness have been repeatedly noted.

In view of these facts, the author thinks that greater efforts should be made in the line of prophylaxis. Pertussis should be placed on the list of diseases under control of the public sanitary authorities. It should be subject to quarantine and other preventive measures as much as scarlet, the methods varying only in their adaptability to the two diseases.

While pertussis is actively contagious from person to person, it is not easily carried; therefore its control need not be as complicated or as far reaching as that of scarlet. Nevertheless, municipal control of this disease is strongly to be advocated.

Influence of the Ingestion of Chloride of Sodium on the Body Weight of Nurslings.—NOBECOURT and VITRY (*Rev. Mens. des Mal. de l'Enf.*, March, 1904) have made a series of observations to determine the effect of the ingestion of common salt on the body weight of nurslings.

The doses used varied from 0.25 to 1.0, given in a small quantity of boiled water before the nursing. The salt was given for seven days consecutively, and then withheld for a like period, careful estimates of the weight being taken during the entire period.

On the whole, it was noted that the increase in weight was greater while the salt was being given than at other times.

In twenty-seven cases there was a very marked difference in favor of the periods in which salt was given, in fifteen cases the gain was greater in the periods without salt. But in the second class it was noted that the difference in increase in the two periods was slight, whereas in the first class the difference was very considerable. It is noteworthy that proportionately the gain was distinctly greater in premature, or poorly developed infants. This observation the authors consider of direct therapeutic value.

The best results were had with small doses of salt, approximately 0.01 to 100.0 body weight. Human milk contains about one gramme of salt to the litre and it was estimated that the doses given just about tripled the ingestion. As to the explanation for the favorable action of the salt, various theories have been advanced—which the authors briefly recapitulate.

From the practical viewpoint the authors conclude that in poorly nourished breast-fed infants the addition of small quantities of salt to the dietary may be of very decided value.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Is Epilepsy a Functional Disease?—STARR (*Journal Nervous Mental Disease*, March, 1904).—This paper has occasioned considerable comment. It is important for at least two reasons. First, on account of the weight which must be given to a statement by Starr on this subject; and second, because the opinion here stated is based upon a study of two thousand cases of epilepsy. Four chief arguments are brought out to form the basis of the author's contention: (a) It is possible to draw a fairly sharp line between Jacksonian epilepsy and the ordinary idiopathic epilepsy. There are recognized a number of distinct types in this affection—at least four: the motor type, the sensory type, the aphasic type, and the psychical, in which dreamy states or imperative ideas dominate the consciousness. In all of these types it is admitted that the Jacksonian attack is a sure indication of local irritation of the brain cortex. It is a symptom of organic disease. (b) The second argument for the organic nature of epilepsy is drawn from the study of cases of maldevelopment of the brain. In 39 per cent. of cases of maldevelopment of the brain based on a material of four hundred cases, epilepsy was present as one of the chief symptoms. (c) Another argument for the organic nature of epilepsy can be urged from a study of the alleged causes of the affection, in which trauma, infection, heredity, etc., play the chief part. (d) The microscopic findings, while not in any sense universal, point to some organic change in the cortex. The sclerosis in the Ammons horn, noticed by Meynert; the gliosis disseminata, found by Fere, Chaslin, Alzheimer and others; the finer degenerative changes in the cells of the cortex, found by Clark, Prout and others—all point to the organic nature of the disease.

Conclusion.—The brain is a storehouse of energy, ready to give it forth in orderly manifestation, as in voluntary action and speech; or in disorderly discharge, as in an epileptic attack. The disease is a disorder of control over inherent energy. Its existence is proof of a weak and defective organization of the brain, and any lesion, no matter of what place, is capable of interfering with these mechanisms of control and of giving rise to the symptom. When the symptom is present there is evidence of a defect of control. And it seems to me far more reasonable, in the light of the facts here presented, to admit it is an organic disease of the brain characterized by a lack of control over the mechanisms of motor energy.

Some Unusual Cases of Tabes Dorsalis with Remarks.—REYNOLDS (*Rev. Neurology and Psychiatry*, March, 1904).—This is an account of four cases of tabes, all of which are unusual in the fact that the knee-jerk is present. In three of the cases there was likewise no ataxia. The diagnosis is not to be doubted, as the presence of Argyll-Robertson pupil in all cases and sensory changes in three of them allowed no other explanation of the symptoms. In the fourth case there were present loss of knee-jerk and Argyll-Robertson pupil, which, according to the author, are sufficient to make the diagnosis of tabes certain. In discussing these cases the author makes this statement: "I cannot remember any cases apart from tabes and general paralysis in which the Argyll-Robertson pupil was present." He quotes Clarke's statement to the effect that it is not present in any syphilitic nervous disease apart from these two conditions. The author regards syphilis as the most important predisposing cause of tabes in probably 90 per cent. of the cases, and for this reason in the early stages of the affection he always orders mercury and the iodides. When the disease is established, anti-syphilitic treatment does not do the slightest good.

Remarks on the Uncinate Group of Fits and on Severe Subcutaneous Hemorrhage Occurring in Epilepsy.—SPILLER (*American Medicine*, March 19, 1904).—Attention is called to this article on account of the importance of this group of epileptic phenomena, and because the true nature of it is so often allowed to remain unrecognized until a classical fit points to the diagnosis. Hughlings Jackson called attention to certain movements of the mouth and tongue occurring in epilepsy, which he regarded as the result of an epileptic discharge beginning in the gustatory elements of a certain region of the cerebral cortex (taste region of Ferrier). Jackson further called attention to the frequency of what he called "the dreamy state" in such attacks, and believed that this was typical of attacks in this region. The name of "uncinate group of fits" was given on the assumption that the starting point of such a fit was in the cells in the region of the uncinate gyrus. The dreamy state is described by one of Jackson's patients as follows: The man felt as if he were saying, doing and looking at things which he had experienced before. Surrounding people seemed to have strange expressions on their faces, and people and things seemed to be far away. Spiller describes three cases of his own to illustrate the subject.

Contribution to the Study of Progressive Locomotor Ataxia.—PAPADOPOULOS (*Le Progress Medical*, March 5, 1904).—This is an interesting communication from a physician in Asia Minor on the relation between syphilis and tabes. Inasmuch as syphilis is very prevalent in this region, some interesting data relative to this question might be expected. The conclusions noted by the author are as follows: (1) Although syphilis in our region is frequent, tabes is rarely found; (2) tabes in our district in women is unknown, although syphilis is very common, occurring as often as in men; (3) the women never drink alcoholic liquors and rarely a little wine; (4) the opinion of Fournier that tabes is of syphilitic origin is difficult of belief, at least in Asia Minor.

The Regeneration of Nerve Fibers in the Foci of Multiple Sclerosis.—BARTELS (*Neurologisches Centralblatt*, No. 5, 1904).—In some of the recent work on the pathology of multiple sclerosis, the chief fact discovered was the persistence of the axis cylinder in the sclerotic patch. This accounts very well with the clinical observation so often made that in this disease there is no evidence that secondary degeneration in the nerve fiber results. Strauhber explains the finding of the author on the ground that the axis cylinders without the myelin sheath found in foci of this disease are not persisting axis cylinders at all, but are regenerated ones. Bartels believes that this assumption is entirely wrong because he has been able to follow the axis cylinders directly to the normal ones, and found that they were continuous. In this he is supported by the recent work of Bielschowsky.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. MCC. JOHNSON, M. D.

Contribution to the Pathological Anatomy of Tuberculosis of the Urinary Apparatus.—HALLE and MOTZ (*Ann. des Mal. des Org. Urin.*, February 15, 1904).—After an exhaustive exposition of the pathology of urinary tuberculosis the authors give some brief therapeutic considerations. It is certain that urinary tuberculosis has recovered notwithstanding some well authenticated vesical lesions. Primitive lesions superficially ulcerated and well localized upon the vesical mucosa, recover; and we can even conceive of the complete cure of deeper penetrative lesions, provided the tubercular process is clearly limited. For we must distinguish between limited and diffuse lesions, the latter being without hope of reparation. Although the vesical wall is destroyed to a great depth we can hope for the arrest of the tubercular lesion. The cure can occur spontaneously under the sole influence of general treatment without any local therapy: in other cases it seems that local treatment prudently conducted by different means (requiring long patience and a rigorous asepsis) can contribute to the cure, but this occurs only where the lesions are favorable—that is, where they are discrete, superficial, and well localized. In another series of cases, less numerous perhaps, cure has been obtained by direct and active surgical intervention—that is, by early cystostomy with total excision of the localized lesions, or by their destruction by curettage or extensive cauterization. Because of the long fistulization, to permit continuation of the local treatment, the fistula may become permanent. Then, too, after the removal of a tubercular kidney, the seat of a primitive lesion and a source of vesical infection, the vesical lesions and symptoms will disappear. Vesical lesions are always secondary to primitive lesions of like nature in the kidney or the prostato-testicular apparatus. These parts are not only the source of vesical infection, but they aggravate the vesical lesions by their proximity and successive re-inoculation with tubercular products.

Ablation of the primitive infection is the most sure preventive means of further contamination. Even though it is late in the disease, surgery still plays a part. While surgery of the bladder leaves the renal and prostatic lesions untouched, yet it is of great service at times and especially in the painful and hemorrhagic forms. Here vesical incision together with curettage and cauterization followed by active and prolonged topical treatment, relieves the active symptoms and may even arrest its further progress. Finally, as a palliative means in the final destruction period, incision gives comfort to the patient.

Ureteral Injection of Oil Followed by the Spontaneous Passing of a Ureteral Stone.—SCHMIDT (*Jour. A. M. A.*, March 12, 1904).—The patient exhibited symptoms of a ureteral calculus in June, 1897. In December, 1902, a skiagraph taken showed the outlines of a ureteral stone. January 5, 1904, the author catheterized the ureter, and, after leaving the catheter *in situ* for two hours, injected 12 c. c. of sterilized albolene into the pelvis of the kidney, and 8 c. c. along the ureter as the catheter was gradually withdrawn. January 12th, after severe pains in the right iliac region the patient "felt something give way." She was then obliged to urinate and passed the stone. A skiagraph taken later showed the absence of the stone in the ureter in contradistinction to the skiagraph taken December, 1902, and the patient's symptoms have been relieved.

Suprapubic Prostatectomy.—STORER (*British Med. Jour.*, January 30, 1904).—There seems to be three conditions of senile enlargement:

1. A true hypertrophy of the gland without any interstitial growths.
 2. The existence upon and within the substance of the prostate of one or more encapsulated tumors, distinct from the substance of the gland proper, and either myomatous or adenomatous in structure. Both forms of neoplasm or one only of them may be present.
 3. A mixed condition of true hypertrophy and interstitial growths of the second class. This condition is much the most common. The tumors may eventually reduce the prostate to a state of pressure atrophy, or cause it to become a mere capsule for adventitious growths. It is the latter condition which in all probability has given rise to so much dispute and uncertainty as to the true pathology of enlarged prostate.
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Decapsulation of the Kidneys.—HUBBARD (*Boston Med. and Surg. Jour.*, January 28, 1904).—Out of a series of seven cases not one of them can be said to have been cured, as not one of them has a urine free from albumen. One is, however, without subjective symptoms or a urinary sediment a year and four months after operation, and another seven months after operation, though lost sight of since. Of the remaining five, one, somewhat improved, died six months after operation of tuberculosis. The remaining four died, unimproved, two nineteen days and one three months after operation. Looking over these cases one cannot find any apparent reason, either in etiology, duration of the disease, or findings at the operation, why one patient should survive and be greatly benefited, another survive but the progress of the disease be not arrested, and a third die within a few days.

Report of Cases of Decapsulation of the Kidney.—BALCH (*Boston Med. and Surg. J.*, January 28, 1904).—Nine cases are reported of which the following is a summary:

Five have died at periods ranging from five days to two years and two months after operation. One case is probably cured; as the urine has only recently been found free from albumen and casts it is too early to classify it as cured. One case has improved and is still gaining, eleven months after operation. Two cases, a year after operation, show very little, if any, improvement.

In the nine cases the disease was of the chronic diffuse type. In each case ether was the anesthetic used. In two cases in which there was an autopsy some time after operation, it was found that a new capsule had formed not essentially different from the old one. The amount of urine and urea varied within wide limits. It was invariably smaller than usual the day after operation but regained or exceeded the previous amount within a few days.

Unilateral Hematuria from Chronic Nephritis.—FREEMAN (*Ann. Surg.*, March, 1904).—The most common cause of obscure renal bleeding is perhaps tuberculosis. Next in frequency comes chronic nephritis, usually of the interstitial type, and often attacking the glomeruli. The author discusses the various operations proposed for the relief of nephritic bleeding, and reports one case, which had been operated upon by decapsulation ten weeks previously, apparently relieved. In conclusion, he says that a prominent cause of renal hematuria, which is often unilateral, is chronic interstitial nephritis, often involving the glomeruli; this together with other obscure causes must be excluded before a diagnosis of "essential hematuria" can be made; and that decapsulation of the kidney is indicated in these cases, as it offers a good prospect of cure of both the hematuria and the nephritis. Nephrectomy should be discarded on account of the probable involvement of the other kidney.

Dilatation of the Bladder in Suprapubic Cystotomy.—BLASUCCI (*Med. Record*, March 19, 1904).—The tendency to give up dilatation of the bladder as a step in suprapubic cystotomy claims the attention of Blasucci. After a consideration of the reasons for omitting this step of the operation, he concludes: (1) A careful injection is of no danger to the bladder. (2) A limited dilatation of the bladder is preferable to none. (3) Anatomical researches in regard to the ascent of the peritoneal fold are of little or no value for the surgeon, and in practice we find more working space than by these researches we should suppose. (4) There are practically no cases in which suprapubic cystotomy is indicated, in which dilatation of the bladder cannot be carried out.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Non-Syphilitic Perforation of the Nasal Septum.—FELIX (*Semaine Medicale*, February 10, 1904) Calls attention to the importance of noting all causes of perforation of the nasal septum, because specific treatment might be begun and continued for years without benefit. Among other conditions causing septal perforations are the following: Simple ulcer, which never attacks the bone; occupation ulcerations occurring in workers in cement, the chromic acid salts and Swedish matches, which may involve bone. Perforation is common among cobalt mine workers and wherever arsenic is used in manufacturing. Also in factories of glass, paper, dextrin, sodium carbonate and hydrochloric acid. Other causes are atrophic rhinitis, traumatism (nasal operations), perichondritis and foreign bodies. Perforation may also be a complication of certain diseases, as typhoid fever, diphtheria, smallpox, tuberculosis, sarcoma, lupus, dental cyst, Bright's disease, leprosy, glanders, rhinoscleroma and tabes dorsalis. Other proofs must therefore be required before diagnosing syphilis.

On Primary Cancer of the Nose.—LENART and DONOGARY (*Orvosi Hetilap*, No. 21; *Monatsschrift fuer Ohrenheilkunde*, xxxviii, No. 1).—After carefully studying seven of their own and eighty reported cases of primary cancer of the nose, the writers conclude that carcinoma is the most frequent. Half of the cases have their origin in the middle turbinate. The next most frequent sites are the inferior turbinate, septum, roof of pharynx, medial wall of antrum of Highmore and sphenoidal cavity. Clinically sarcoma and carcinoma cannot, according to these authors, be differentiated. The histological examination can alone determine this. Endonasal surgery can be of value only in the beginning. Radical measures will have to be resorted to as a rule. The prognosis is bad, as there are only two cases on record in which a definite cure was effected.

Headache From Non-Suppurative Inflammation of the Accessory Sinuses of the Nose.—ROBERTSON (*Jour. A. M. A.*, March 5, 1904).—Headache from disturbance of the air pressure in the accessory sinuses of the nose is not so rare as might be supposed; there are present all the symptoms of an empyema except the discharge. The cause of this condition has been stated to be due to increased air pressure in the sinus, but the author believes it to be due to a lack of pressure. This diminution in pressure is caused by obstruction to the ingress of air to the particular sinus by closure of its natural orifice. For instance, the middle turbinal may be swollen from inflammation, the swollen body obstructs the sinus so that the cavity is shut off from the nasal chamber. The imprisoned air loses its oxygen from absorption, the pressure on the mucous membrane is lessened by rarification of the air contained in the cavity. This causes a swelling of the mucous membrane in the sinus. If the opening

becomes patent the condition subsides, but in cases where the opening remains closed for some time the cavity is encroached upon (1) by the swelling of the mucous membrane; (2) by pouring out into the cavity of lymph, and (3) by engorgement of the mucous membrane itself by lymph. The same condition exists here as in the non-suppurative inflammations of the ear caused by occlusion of the eustachian tube. The symptoms vary according to the time the sinuses remain closed. The cases may present intermittent symptoms from occasional opening of the sinus by contraction of the tissues of the middle turbinate. Two cases are reported in detail.

On the Abortive Treatment of Tonsillitis.—JORDAN (*Orrosi Hetilap*, 1903; rev. *Monatsschrift fuer Ohrenheilkunde*, January, 1904) highly recommends the administration of sulphate of quinine in tonsillitis and believes its action to be as specific in this disease as it is in malaria. The quinine is given only at night, a half gram at seven and a half gram at seven-thirty. The following day the patient is without fever and by evening the patient will have fully recovered. That the quinine does not have any prophylactic action, the author believes to be illustrated by one of his cases, in which there was an involvement of the right tonsil with high temperature in the evening. Following the administration of the quinine there was a normal temperature in the morning, while the same evening there was an involvement of the left tonsil with high temperature. The quinine was again administered with the result that there was no recurrence of the trouble. The writer also claims that this treatment is of value as a diagnostic agent in differentiating tonsillitis from diphtheria and scarlatinal anginas, as the quinine does not exert any influence on the last two.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Some of the Physical Properties and Medical Uses of Radium Salts, with Report of Forty-two Cases Treated by Pure Radium Bromide.—FRANCIS H. WILLIAMS (*Medical News*, February 6, 1904).—For practical purposes the strength of a given specimen of radium may be roughly measured by its power to penetrate iron. The salts only of radium, chloride and bromide, are used, metallic radium being unstable in the air. Radium has five properties that especially deserve notice: 1st. It maintains a temperature above its surroundings under thermal insulation. 2d. It is luminescent. 3d. It is a spontaneous source of electricity. 4th. It gives out three kinds of rays, named by Rutherford, alpha, beta and gamma. 5th. It produces in surrounding objects what Mme. Curie has called "induced radioactivity."

The alpha rays constitute the largest part of the radiation. They are easily absorbed and are slightly deflected by a strong magnetic field. The beta rays are not so easily absorbed and they are more strongly de-

flected by the magnetic field than the alpha rays. The gamma rays are the most penetrating of the three kinds. They are not deviated by the magnetic field.

The emanation, which is thought to be a gas, imparts radioactivity to objects that have been in the neighborhood of radium salts for a sufficient period, that is to say, these objects even after removal from the radium, give out rays for a certain length of time. Mme. Curie states that certain substances, such as rubber, celluloid, paraffin, etc., retain the radioactivity imparted to them longer than can be accounted for by the general law, and that they seem to become charged with radioactive energy which they lose gradually while imparting radioactivity to their surroundings. This may make rubber useful in treating certain diseases.

From a medical point of view radium salts may be of service in two ways: First, by their rays; second, by their emanation.

Their Value in Diagnosis.—The radium rays, unlike the x-rays, cannot be used for diagnosis or prognosis, either by means of radiographs or of the fluorescent screen, on account of their inability to show sufficient differentiation between the tissues.

The Value of Radium as a Therapeutic Agent.—The use of radium salts for therapeutic purposes needs much the same kind of experience as is required for the successful use of the x-rays. As with the x-rays, caution must be observed as to burning, etc., when treating patients.

The method of using radium is simple. If strong action of the radium is desired, the metal box containing the salts is placed on the part to be treated. In this case the box should first be covered with a thin rubber cot, which can be readily removed and a new cot used for each patient. By this means the radium capsule does not come in contact with the part to be treated, but is separated from it by this new and clean substance. If a weaker action of the radium salts is indicated, the capsule is placed at a greater or less distance, according to the needs of the case.

Exposures in some cases must be longer than in others and the frequency with which they are given must vary with the case. Exposures should not be made every day; two or three times a week seems to be the safest procedure. Exposures of many hours would be necessary if weaker forms of radium were used, that is, radium of 1,000 or 8,000 activity, before any special results could be obtained, and these weaker forms would not be efficient as compared with pure radium, so that they need not be considered. Pure radium bromide is none too strong for the work to be accomplished in certain cases. The author reports forty-two cases, many of which were treated at the Boston City Hospital. Of these nine were diseases of the skin, namely, one case of acne, two each of eczema and psoriasis and four cases of lupus vulgaris. In the one case of acne each pustule was exposed to the radium through an opening in a sheet of lead foil and healing took place. In the two cases of eczema two exposures were given and there seemed to be some improvement, but the itching was not relieved. In the two cases of psoriasis the radium was used for small areas only. Healing took place in each of these areas a few days after exposure. In the four cases of lupus the results have been very satisfactory. Two patients are now apparently well and the two others are improving. The action of the radium in all

these four cases was far more prompt than that of the x-rays. The author obtained improvement in keloid, epidermoid carcinoma and carcinoma of the breast. In the latter, however, the improvement was not as marked as with the x-rays.

These cases show that radium is useful for treating some skin diseases and superficial new growths. In comparing the action of the x-rays and radium I think that the comparison at the present time is greatly to the advantage of the radium and quite in contrast with the comparison which was made between radium and the x-rays for taking photographs or for fluoroscopic examinations. The dose from radium is uniform and the strength of the output does not vary, so that the dose depends entirely on the length of exposure and the distance of the radium from the part to be treated. Radium may be applied to parts which are not readily accessible to the x-rays, as the mouth or vagina. The healing action of the radium is more prompt, the treatment therefore extends over a shorter period and fewer exposures are required than when the x-rays are used. Radium has the further advantage of bringing about healing in some cases where the x-rays have failed after careful and long continued treatment.

In conclusion, the author's experience teaches him that there is much similarity between the action of the radiations from the radium and the x-rays. If the results obtained by radium prove permanent, this new therapeutic agent will be largely used instead of the x-rays, but the two will supplement each other.

1. Certain diseases promise to yield more readily to treatment by radium and others to the x-rays.
2. A disease that has attacked different parts of the body of a given patient may be better treated in certain regions by radium and in others by the x-rays.
3. It is quite possible that in some instances the two remedies used together on the same area and at the same sitting, may accomplish better results than either alone.

Brief Note on Frost-Bite in Young Children.—W. A. HARDAWAY, M. D. (*Courier of Medicine*, March, 1904).—The author reports three cases of a peculiar condition occurring in young children, usually of fair complexion and light hair, as a result of exposure to extreme cold. The effect of the cold manifests itself as sharply defined erythematous areas, usually upon the cheeks, but it may occur on any part which has been exposed to the conditions named. The children have a slight rise in temperature, and the adjacent lymphatic glands may be enlarged. These areas are deeply infiltrated and can be picked up between the fingers. Manipulation of the parts gives the impression of an embedded solid mass. The epidermis is smooth and unaltered, and at no time presents vesicles or bullæ. After a week or ten days of treatment the doughy mass usually resolves itself and the parts become normal, the dark flush often persisting for some time. The condition may, of course, be recurrent under the same exciting factors. These subjects are usually fat, and the parts attacked are those generally left unprotected, and therefore exposed to the exciting factor. The treatment which the author

has found most satisfactory is the local application of unguentum vaselini plumbicum, stiffened with about 12 per cent. zinc oxid. This is spread on strips of muslin and applied neatly to the parts.

Multiple Lupus.—H. G. ADAMSON (*British Journal of Dermatology*, March, 1904).—This occurred in a girl of five years. Scattered over the body were several typical lupus nodules. They were distributed as follows: One on the left cheek, one on the chest, one on each arm, one on the dorsum of foot and two on the inner surface of the left buttock. Those on the buttocks were oval and the size of a small bean. The others were split-pea sized. The lesions had been noticed about two and a half years, and the mother thought that they had not increased in size since their first appearance. One lesion on the chest had entirely disappeared, leaving merely a pale mark, but no scar. The child had measles about three years ago. There was no other evidence of tubercular disease, but twelve months ago the patient attended hospital for several months for chronic diarrhœa.

Du Castel has drawn attention to the fact that multiple cutaneous tuberculosis is not infrequently immediately preceded by an attack of measles. The eruption bursts out suddenly, suggesting an infection by the blood stream from some central focus. Usually there is a wider period between the attack of measles and the outbreak of lupus. The eruption may remain unchanged for years, or some of the nodules may spontaneously disappear, with or without subsequent scar, while others may enlarge into extensive patches. The author refers to a case which he exhibited some years before of multiple lupus verrucosus in a boy. The whole of the lesions disappeared entirely, although the child subsequently developed other tuberculous lesions, namely, a postero-pharyngeal abscess and hip disease.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

The One-Hand Method of Testing the Tension of the Eye.—S. C. AYRES (*American Jour. of Ophthalm.*, January, 1904).—With the patient looking down, the index and middle fingers (of either hand) are placed on the upper lid and pushed back until the finger nails rest on the rim of the orbit. Alternate pressure is then made over the globe.

Greater delicacy, freedom of the arm from constraint and especial convenience in testing the ocular tension in bedridden patients, are advantages claimed over the bimanual method.

Parinaud's Conjunctivitis.—J. CHAILLOUS (*Ann. d'Oculist.*, January, 1904).—This interesting paper reviews the history and well-authenticated published cases of the clinical entity first described by Parinaud in 1889. The disease was defined as "an infectious conjunctivitis, which

is always accompanied by suppuration of adjacent lymphatic glands and which is apparently of animal origin."

In the three cases which formed the basis of Parinaud's original communication the affection was monocular. The following picture described by the discoverer still holds true in the main: The appearances bear some resemblance to those characteristic of trachoma. Red or yellow vegetations, translucent at first but later becoming opaque, are found in the conjunctiva. There are, in addition, smaller yellow granules, which bear a close resemblance to those found in tuberculosis of the conjunctiva. The lesions are situated in both lids, the cul-de-sac and a portion of the bulbar conjunctiva. The secretion is mucoid with fibrinous debris, but there is no true suppuration. The lids are swollen and hard to the touch and contain nodules resembling chalazia, the region of the parotid is inflamed, the lymphatic glands swollen and at times softened. Fever of moderate degree is usually present. Within three or four months the granulations disappear spontaneously. The enlarged glands either disappear by absorption or suppurate. This suppuration of the gland, which indicates the infectious nature of the process, is regarded by Parinaud as pathognomonic of the disease.

Chaillous has carefully reviewed twenty published cases, including five of his own, and reaches the following conclusions: The affection is characterized by the appearance on the conjunctiva (usually of one eye only) of strawberry-colored vegetations varying in size and form. Erosions of the epithelium may coexist. The lymph glands in the preauricular and cervical regions are always enlarged. The lymphatics may or may not suppurate, but they are always enlarged, sensitive to pressure and painful. The conjunctival lesions and the enlarged lymphatic glands pass through a definite evolution ending in recovery. The adenopathy which may be pretty well generalized lasts longer than the vegetations. The clinical features of this type of conjunctivitis have much in common with tuberculosis of the conjunctiva, and histologic examinations and animal inoculation may be necessary to differentiate the two diseases. The absence of induration, the tendency of the lymphatics involved to suppurate, and the absence of skin eruptions, serve as differential diagnostic points between this disease and syphilis of the conjunctiva.

The variety of the manifestations of the disease suggests that the cause may not be the same in all cases. Until the exact etiology shall have been established it is suitable to classify together cases presenting this fairly definite symptom-group.

Cases of Optic Papillitis in Enteric Fever in Children.—G. CARPENTER (*The Ophthalmoscope*, February, 1904).—The rarity of this complication has led the author to report the following two cases:

CASE 1.—A child of eleven developed, at the end of the second week of an unquestioned typhoid, a slight swelling of the optic papillæ. Eight days later the ophthalmoscope showed increased prominence of the disks which were greyish with blurred margins. Fine vessels on the right disk were "corkscrewy." Two months later the left disk was decidedly "wooly" and the margins of the right were blurred above and below.

CASE 2.—Female, seven years, showed at the end of the third week red, swollen disks with ill-defined margins. The vessels were numerous, the veins very tortuous. Six weeks later the ocular complications had entirely disappeared.

The type of the papillitis is that observed in tubercular meningitis.

Ulceration of the Cornea Due to Infection with the *Bacillus Pyocyaneus*.—A. McNAB (*Ophthalm. Review*, March, 1904).—The case was seen six days after the beginning of trouble. The conjunctiva was edematous and covered with a greenish, purulent secretion. Almost the entire cornea was occupied with a round ulcer. Extensive hypopyon. Cultures and animal inoculation showed the presence of a pure culture of *B. pyocyaneus*.

Ocular infection with *B. pyocyaneus* is very rare, there being only three cases in the literature in which the bacteriology has been thoroughly worked out.

The treatment advocated is early and free opening of the anterior chamber by the Saemisch incision.

Sarcoma of the Orbit. Report of a Case Cured by the X-Ray.—L. WEBSTER FOX (*Archives of Ophthalm.*, vol. xxxiii, No. 1, 1904).—The patient was a female of twenty, who presented, herself with a tumor the size and shape of a large olive attached to the inner bony wall of the left orbit. Trouble in the left antrum being suspected, an exploratory puncture was made with negative results. Incision at the inner canthus, together with the elevation of the periosteum over the anterior and middle ethmoid cells allowed the escape of a glairy fluid, probably originating in the diseased ethmoid cells. Free drainage into the nose was established. Shortly afterwards a mass of granulations appeared in the wound, which was removed and examined microscopically. The pathological diagnosis was "spindle-cell sarcoma."

Operation being considered inadvisable, recourse was had to the x-ray. For four weeks the patient was subjected to daily sittings of five minutes each with a high vacuum tube at a distance of ten inches and a current of four amperes. At the thirtieth application excessive erythema of the eyelids and adjacent integument occurred necessitating less frequent seances. In all, forty-six exposures were made, the growth diminished in size and the globe no longer protruded. The final result was extraordinarily good, the facial symmetry being re-established. There was complete destruction of the eyelashes and eyebrows.

The condition before and after treatment is beautifully illustrated by photographs.

BOOK REVIEWS.

COMPEND OF DISEASES OF THE EAR, NOSE AND THROAT. By JOHN JOHNSON KYLE, B. S., M. D., Lecturer on Otology, Rhinology and Laryngology and Assistant to the Chair of Surgical Pathology in the Medical College of Indiana. With 85 illustrations. P. Blakiston's Son & Co., Philadelphia.

This little work is intended for the student and general practitioner engaged in a limited way in the treatment of the ear, nose and throat. In the chapter on the treatment of the various diseases of the above-mentioned organs the author has succeeded admirably, but the essentials of diagnosis are rather too briefly touched upon, and for this reason the book will hardly satisfy the desires of a practitioner who wishes to familiarize himself more minutely with these special branches.

OBSTETRICS FOR NURSES. By JOSEPH B. DE LEE, M. D., Professor of Obstetrics in the Northwestern University Medical School, Chicago; Lecturer in the Nurses' Training Schools of Mercy, Wesley, Provident, Cook County and Chicago Lying-in Hospitals. 12mo of 460 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company. 1904. Cloth, \$2.50 net.

Although this work was written, as the author states, primarily for nurses, yet we firmly believe that medical students will find in it much of value, since the duties of a nurse often devolve upon him in the early years of his obstetric practice. There are really two subjects considered—obstetrics for nurses and the actual obstetric nursing—and Dr. DeLee has combined them so that the relations of one to the other are natural and mutually helpful, presenting this important branch of medicine in a clear and interesting form. The illustrations have not been borrowed from other works, as is too frequently the case, but have been made expressly for this book. The photographs were taken by the author from actual scenes, and are true to life in every respect. The text is the outgrowth of eight years' experience in lecturing to the nurses of five different training schools.

ATLAS AND EPITOME OF OPERATIVE GYNECOLOGY. By DR. O. SCHAEFFER, of Heidelberg. Edited, with additions, by J. CLARENCE WEBSTER, M. D., Professor of Obstetrics and Gynecology in Rush Medical College. With 42 lithographic plates in colors, many text cuts, a number in colors, and 138 pages of text. Philadelphia, New York, London: W. B. Saunders & Company. 1904. Cloth, \$3.00 net.

This new addition to Saunders' series of Hand-Atlases is excellent. This atlas is opportune, and the excellence of the lithographic plates and the many other illustrations render it of the greatest value in obtaining a certain practical knowledge of operative gynecology. The text closely follows the illustrations, and we have found it fully as accurate.

THE RELATION OF SOCIAL DISEASES AND MARRIAGE. By PRINCE A. MORROW, A. M., M. D., Emeritus Professor of Genito-Urinary Diseases in the University and Bellevue Hospital Medical College; Surgeon to the City Hospital; Consulting Dermatologist to St. Vincent's Hospital,

etc., New York. In one octavo volume of 390 pages. Cloth, \$3.00 net. Lea Brothers & Co., Publishers, New York and Philadelphia. 1904.

The importance and practical value of this new and timely volume, written by a man of long experience and sound common sense, upon a subject which so vitally concerns mankind individually and collectively, insures it a wide recognition. Heretofore no comprehensive treatise on the subject has existed in the English language. The work sets forth the dangers introduced by venereal infection into marriage.

A most interesting chapter is the one dealing with the "Medical Secret," considering the influence to be exerted by the physician in preventing undesirable and improper marriages. A perusal of certain parts of this book can well be recommended to every thoughtful adult.

PROGRESSIVE MEDICINE. VOL. I, MARCH, 1904. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 337 pages, 7 illustrations. Per annum in four cloth-bound volumes, \$9.00; in paper binding, \$6.00; carriage paid to any address. Lea Brothers & Co., Publishers, Philadelphia and New York.

This volume contains the following contributions: "Surgery of the Head, Neck and Thorax," by Charles H. Frazier, M. D.; "Infectious Diseases, including Acute Rheumatism, Croupous Pneumonia and Influenza," by Robert P. Preble, M. D.; "Diseases of Children," by Floyd M. Crandall, M. D.; "Laryngology and Rhinology," by Charles P. Grayson, M. D., and "Etiology," by Robert L. Randolph, M. D.

With this volume the annual subscription price for this excellent publication has been reduced to \$9.00, and the publishers have a separate edition in paper binding which is furnished for the exceedingly low price of \$6.00 for the four volumes.

Considered from every point of view this work is one for which the medical profession may well be grateful to the author and publisher.

HANDBUCH DER GEBURTSHILFE. In drei Baenden herausgegeben von F. VON WINCKEL in Muenchen. I. Band, 1. Haelfte. Wiesbaden: Verlag von J. F. Bergmann. 1903.

The last decade of the past century will live in the history of medicine as one characterized by the production of splendid work in the field of obstetrics. Researches pertaining to the anatomy of nidation of the ovum, to bacteriology of the female genitalia, to the biology of the fetus, etiology of eclampsia and puerperal fever have fundamentally changed and, in certain features, wiped out the teachings of the past. They have aroused interest for most fruitful investigations along entirely new lines. Many new text-books have been published, numerous new periodicals devoted exclusively to obstetrical and gynecological subjects have appeared.

Von Winckel, whose name is just as well known to American obstetricians as it is to those of Europe, has undertaken the gigantic task of embodying all the new teachings of obstetrics, and all the old ones still left, in one "Handbuch." Those familiar with foreign literature know the exactness, completeness and thoroughness of these "Handbooks," well-nigh characteristic of German medical literature.

The first half of the first volume, a book of 657 pages, begins with a history of gynecology, written by the distinguished editor himself. The rest of this volume is devoted to the physiology and symptomatology of pregnancy, treated in sixteen chapters, which are written by Strassmann, Pfannenstiel, Goenner, v. Rosthorn and v. Winckel.

The make-up of the volume is splendid. Most of the illustrations are original and of unusual clearness.

To the American physician interested in obstetrics this work recommends itself, for the reason that there is nothing extant in the English language that could be in any

way compared to it, at least as far as the completeness of the material presented is concerned.

DER KOERPER DES KINDES. VON DR. C. H. STRATZ. Mit 187 in den Text gedruckten Abbildungen und 2 Tafeln. Stuttgart: Verlag von Ferdinand Enke. 1903.

Numerous books have been written on the sick child, very few on the healthy child. In the works of anatomists and artists but little space is given to the peculiarities in the formation of the body of the child. Stratz subjects these peculiarities to a critical analysis from an objective scientific point of view, in order to differentiate them into normal and abnormal ones. From the standpoint of the art critic he shows what should be considered a well and what a badly formed body.

The value of proper information on such points for the practicing physician is obvious. It is a just claim of older physicians that the younger generation, by resorting entirely to physical examination and to the microscope, is neglecting the practice of a careful ocular inspection in the art of diagnosis. There can be no doubt that a well-trained eye and a thorough familiarity with the form of the human body will always prove a most valuable aid in arriving at a diagnosis. Stratz, who is the author probably of the best known book on the normal form of the female body, deserves praise for giving to the profession this new volume, devoted exclusively to the body of the child.

Like his former publications, this new book is magnificently illustrated and written in a language which would make it hard to decide whether the author is best as a physician, art critic or literateur.

NERVOUS AND MENTAL DISEASES. BY ARCHIBALD CHURCH, M. D., and FREDERICK PETERSON, M. D. Fourth edition. W. B. Saunders & Co., Philadelphia. 1903.

The popularity of this text-book on nervous diseases is attested by the fact that the present volume is the fourth edition. The new feature of this edition which deserves especial attention is the chapter on a review of some recent problems of psychiatry by Adolf Meyer. This is easily one of the best critical papers on this subject that has appeared in years. The wisdom of including such an important paper as this in a text-book designed especially for students is problematical. The psychiatry in the present volume still contains the long history of a case of paranoia to which is given forty pages of the text, while dementia paralytica (a much more important subject to the student) is given only twelve. There is much added matter in this edition which brings the book well up to date, and makes it on the whole a very satisfactory book for the student as such books go.

CHRONIC HEADACHE AND ITS TREATMENT BY MASSAGE. By GUSTAF NORSTROM, M. D. G. E. Stechert, New York. 1903.

This is a collection of a number of cases of headache and migraine treated by massage. The basis of the headaches in this collection of cases is almost universally some palpable change in the muscle or in the nerve, such as myositis at the insertion of the muscles or an enlarged gland which pressed upon the nerve or muscle. The muscular indurations are a marked feature in all the cases here quoted, and the success obtained in all of them is evidently due to the presence of these mechanical causes of the symptoms. Within the limits here described the method of treatment advocated by Norstrom seems to be very effective, but this can apply to only a very small per cent. of chronic headaches. The chief criticism that can be directed against this little book is that of too reckless generalization derived from a comparatively small number of cases. The fifteen cases given here in some detail are not convincing on account of the short time they were observed, and on account of their too evident selection for purposes of therapeutic proof.

INFANT FEEDING IN ITS RELATION TO HEALTH AND DISEASE. A Modern Book on all Methods of Feeding. For Students, Practitioners and Nurses. By LOUIS FISCHER, M. D., Visiting Physician to the Willard Parker and Riverside Hospitals, of New York City; Attending Physician to the Children's Service of the New York German Poliklinik; Former Instructor in Diseases of Children at the New York Post-Graduate Medical School and Hospital; Fellow of the New York Academy of Medicine, etc. Third edition, thoroughly revised and largely rewritten. Containing 54 illustrations, with 24 charts and tables, mostly original. 357 pages, 5 $\frac{3}{4}$ x 8 $\frac{3}{4}$ inches. Neatly bound in extra cloth. Price, \$2.00 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

The third edition of Dr. Fischer's well-known book on infant feeding has been completely revised and considerably enlarged. Among the new chapters is one on buttermilk feeding. This method is now attracting a good deal of attention in various countries. Explicit directions as to preparation of the food are given. Other new chapters are on milk, idiosyncrasies in children and on feeding of children with cleft palate.

Concerning the question of laboratory modification of cow's milk, the author believes that, insofar as the laboratories succeed in giving a clean, pure milk, their work is of great value. The mathematically exact modification is after all of less value.

As a whole, the work will be found to be a very useful compendium of present-day knowledge of the ever-interesting subject of infant feeding.

The author's arrangement of his subject-matter leaves something to be desired in the way of logical sequence.

Thus, chapters xi-xlv are: Nathan Straus' Milk, Charity, Colic, Constipation, Statistics, Rachitis, Scurvy.

A good working index is, however, appended. The bookwork is in every way satisfactory.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1904. A Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, drawn from journals, monographs and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of GEORGE M. GOULD, A. M., M. D. In two volumes. Volume I, including General Medicine. Octavo, 673 pages, fully illustrated. Volume II, General Surgery. Octavo, 680 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1904. Per volume: Cloth, \$3.00 net; half morocco, \$3.75 net.

The current issue of Saunders' Year-Book not only maintains the high standard of excellence established by former issues, but is in many respects distinctly superior. The work is, as usual, under the general editorial charge of Dr. Geo. M. Gould, than whom no one is better fitted for the task. For the benefit of those unfamiliar with the scope of the work, it may be stated that the essentials of progress in the multiform ramifications of medicine and surgery are presented by workers in the different branches. The value of the articles is greatly enhanced by judicious critical commentary. A careful perusal of this work will enable the busy specialist and general practitioner to acquire a knowledge of the general trend of medical and surgical advance of which he would otherwise remain in ignorance. Its value as a book of reference will be conceded by all. The excellent letter-press is embellished by well-executed text-cuts and full-page insert plates.

INFECTIOUS DISEASES, THEIR ETIOLOGY, DIAGNOSIS AND TREATMENT. By G. H. ROGER. Translated by M. S. GABRIEL, M. D. Illustrated with 43 engravings. Pp. iv—874. Lea Brothers & Co., New York and Philadelphia. 1903.

Professor Roger's point of view combines that of the laboratory worker with that of the clinical observer in an unusual degree. He has himself performed a great deal of work, both along physiological and bacteriologic lines, while, nevertheless, his chief interests have remained clinical. His book has both the merits and the defects resulting from this characteristic. The reader is, as it were, attending a course of lectures, given by a strong and enthusiastic man, who stands at the very borderline of medical knowledge, which he himself has helped to advance in no small degree. He dilates with illuminating detail upon those features of his subject which have chiefly interested him and upon which he himself has done research work. On the other hand, the book is not a storehouse of exhaustive information, such as many of the German monographs are. Many features that have not occupied the attention of the writer himself the reader will find very briefly treated or even ignored. The book is thus above all a stimulating one and such as would appeal primarily to the well-read physician who, well equipped with general medical information, desires to sit at the feet of a great clinician and experimenter. As a text-book for students or as a general work for reference, it would be of little use.

MORPHIUM ALS HEILMITTEL. VON PROF. DR. O. ROSENBACH. G. E. Stechert, New York.

In this little monograph of some 94 pages, Prof. Rosenbach again mounts the hobby on which he trotted so gaily through the pages of *Die Deutsche Klinik*. That opium or morphine is the most important of all our drugs, whose value is fully appreciated by but few physicians, may be readily admitted. But as one reads Prof. Rosenbach's enthusiastic words one is tempted to believe that he considers morphine nearly a cure-all. His favorite thesis is that morphine is not only a valuable sedative, an indirect tonic where it gives needed rest, a stimulant where it prevents inhibitory impulses, a laxative where it abolishes intestinal spasm, etc., all of which may be readily admitted. Morphine in addition, he believes, has an almost mystic power of enabling the worn-out cells to build up the tissues that have been destroyed by disease, overuse or other agency, and this not indirectly by means of the rest it gives the organism, but directly through some metabolic power of its own. The book, however, is well written and will interest the reader even though he decline to follow the author as far as the latter would lead him.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. Pp. XI-770. E. B. Treat & Co., New York. 1904.

The Annual enters its twenty-second year in much the same form as recent numbers. After a general review of recent advances in therapeutics, the newer remedies are taken up one by one and discussed in alphabetical order. On the whole these discussions are adequate; it would of course be idle to expect completeness in so condensed a presentation, nevertheless essential points are occasionally omitted. For instance, in speaking of the favorable effects of rodagen on Grave's disease, the reviewer calls attention to the fact that in the great majority of reports no beneficial effect upon the disease was observed from the administration of the drug. The bulk of the volume is devoted to a review of the year's publications on treatment arranged as in an encyclopedia chiefly alphabetically under the heads of the diseases discussed. The plates are of great beauty and distinctness and add greatly to the value of the book. The latter is certainly doubled for purposes of reference by an adequate index. The busy practitioner who desires the gist of the year's literature on therapeutics in condensed form will find the little volume worth having.

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No. 5.

ORIGINAL ARTICLES.

HUMAN EMBRYOS.

THEIR VALUE, METHODS OF PRESERVING AND SECTIONING.

By A. C. EYCLESYMER, of St. Louis, Missouri,

DIRECTOR OF ANATOMICAL DEPARTMENT, ST. LOUIS UNIVERSITY.

In the entire domain of animal morphology there is no province in which the investigator is so directly dependent upon the physician as in that of human embryology.

Since 1837, when Karl Ernst von Baer's "*Epistola de ovi Mammalium et Hominis genesi*," marked the dawn of this branch of morphology repeated appeals for collaboration have been made.

The generous responses have made possible such works as those of Coste, His, Giacomini, Minot, Mall, Kollmann and others, and have further linked inseparably with the progress of morphology the names of many physicians, notably: Drs. Greppin, Ecklin and Muench, of Basle; Drs. Lomer and Leopold, of Leipzig; Dr. Glavecke, of Kiel; Dr. Kirtledge, of Nassau, New Hampshire, and Dr. Garrigues, of New York.

Although we have acquired a vast amount of information, there still remain fields almost entirely unexplored. We know little concerning maturation and ovulation, and nothing regarding fertilization, segmentation or gastrulation. As to fetal membranes, recent researches show that the entire subject needs further study. Concerning the systemic changes beyond the second month, embryology is practically silent. Not a single organ has been followed from the time of its first appearance until it has reached the mature condition. Not only should the various organs, tissues and cells be followed up to maturity, but also from this period on until senile death. In other words, we should know in these various structures the successive changes going on during their entire life cycles.

The entire field of human teratology invites renewed study, especially in the light of the recent discoveries in comparative experimental embryology. We know that gravity, temperature, various light waves, osmotic changes, different gases, chemical substances, electric currents, magnetism, mechanical shocks and other environmental factors profoundly influence the growth processes. Through experimental methods

we are able to produce in the lower animals a large number of the specific malformations catalogued for the human species. In some cases we are able to say precisely what external factors produce a given malformation. One of the lines of work for the immediate future, then, is the determination of the specific causes of the various malformations. Understanding the causes we may be able to prevent their occurrence. Or having occurred, we may be able to provide correctives. Many other lines of investigation could be pointed out which would further emphasize the fact that *both normal and pathological embryos are of great value.*

The next important consideration is preservation. Although a large number of embryos come into the hands of the embryologist, through the generous aid of the physician, many are so poorly preserved that they are practically worthless. In preserving material the following points should be kept in mind: Handle the specimen as little as possible. Never allow it to lie in water. If no preservative be at hand it may be gently wrapped in cloth and put on ice. As soon as possible place the unopened membranes, containing the embryo, in the strongest alcohol which can be obtained: or, still better, in a solution of nine parts water to which is added one part of formalin. One of the best fixing solutions for cell details is a saturated aqueous solution of corrosive sublimate to which is added about one per cent. of acetic acid. Always have ten times as much fluid as material to be preserved.

Material fixed in strong alcohol should be transferred to about 80 per cent. alcohol for final preservation. That fixed in 10 per cent. formalin should be passed through 35 per cent., 50 per cent., 70 per cent., and finally preserved in 80 per cent. alcohol. If the embryo be fixed in corrosive sublimate-acetic, it must be soaked in iodized 70 per cent. alcohol for many hours to remove the sublimate crystals, when it is transferred to 80 per cent. for final preservation.

Small embryos may be stained *in toto* and embedded in paraffin. The best method, however, is to use celloidin as an embedding mass, since it admits of section staining in various ways. The superiority of celloidin over all methods requiring heat is unquestioned, yet its manipulation has been attended by many difficulties. Some years ago the writer devised a method which has since come into very general use.* Since it is still superior to other methods of handling serial sections in celloidin it may not be superfluous to repeat here its essential features.

The prepared shreds of celloidin, which are obtained from any dealer in microscopical supplies, should be placed in an air-tight chamber: a four-ounce salt-mouth bottle being very suitable for this purpose. Pour into this bottle just enough ether-alcohol (equal parts acid-free, sulphuric ether and absolute alcohol) to cover the fragments. The ether-alcohol should be added at intervals until after occasional shaking all the shreds are dissolved, which may take several days. This stock solution should

* American Naturalist, 1892, Vol. XXVI, pp. 354-358.

possess finally the consistency of very thick molasses. This solution should be labelled No. 4. The next solution (No. 3) is obtained by taking two volumes of No. 4 and diluting by the addition of one volume of ether-alcohol. No. 2 is obtained by proceeding in like manner with No. 3. While No. 1 is the original mixture of ether and absolute alcohol in equal parts.

The saturation and final embedding is accomplished as follows: The object is transferred from 95 per cent. alcohol to solutions 1, 2, 3, 4, successively, in each of which it remains from a few hours to days, depending upon the size and permeability. For pieces of tissue 2 mm. in diameter, twenty-four hours in each will generally suffice. For a large brain—*e. g.*, that of a cat, a week in each will not be too long. In embedding, unless careful orientation is desired, the ordinary paper box is best. A thin plate of lead may be placed in the bottom, or as pointed out in following paragraph, this may be omitted. The object is taken from the thickest celloidin and placed in the box in position. If desired,

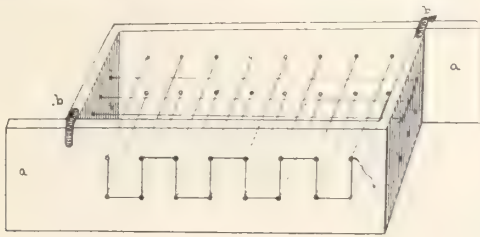


Fig. 1.

fine insect pins or needles may be passed through the box to support the object.

For hardening the celloidin, the method given by Viallanes of immersing in chloroform is best, since the hardening is more rapid than in alcohol. Instead of completely immersing in chloroform the box may be only partly immersed, in which case it is unnecessary to weigh it. After the celloidin mass is thoroughly hardened, the paper is cut from the mass and it is transferred to 70 per cent. alcohol for a few hours. It is now ready to fix on a block of wood or pressed paper. The blocks are cut to fit the clamp of the microtome. Solution No. 3 is poured over the end of the block and into this the hardened celloidin mass is pressed, after dipping its under surface in solution No. 1. The celloidin mass is thus cemented to the wood block, and after a few minutes' exposure to the air is held tightly in position. The block and its attached celloidin mass should then be transferred to chloroform until the cementing celloidin is hardened.

Reconstruction points are often very desirable. For this purpose the ordinary metallic embedding box (Fig. 1), made of two L-shaped pieces

(*a* and *a*), held in place by the overlapping strips (*b*), can be advantageously used. The ends and sides are perforated in as many places as desired by a very small drill. These holes should be so drilled that the silk threads which are drawn through them run parallel. After being tightly drawn, they are cemented to the sides of the box by a drop of celloidin. A piece of thread two or three inches long should be left hanging. The bottom of the box is made by fitting in a piece of heavy blotting paper. The object is now placed upon the threads in the desired position and the embedding mass poured in. As soon as hardened, after the method described above, the celloidin drops holding the threads in position are dissolved by a drop of ether-alcohol. The loose ends of the threads are soaked in a solution of celloidin No. 2, containing lamp-black. The threads are then drawn through the celloidin. The lamp-black adheres to the celloidin mass, so that when the sections are cut the lampblack remains as black rings, which form most excellent reconstruction points.

In cutting, care should be taken that the knife is placed as obliquely as possible and kept constantly wet with 70 per cent. alcohol. In case the sections should roll, a higher percentage of alcohol should be used.

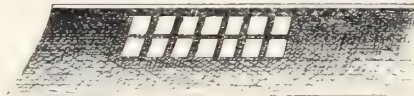


Fig. 2.

In wetting the knife, the ordinary dripping apparatus cannot be used. As a substitute, an ordinary pipette provided with a large bulb is best. As fast as cut the sections are drawn back on the blade of the knife and arranged in single rows until the blade is filled, somewhat as shown in Fig. 2. To remove the sections a piece of ordinary toilet paper, the size of the slide to be used, is wet in alcohol and placed directly upon the sections, and to which they adhere. They are then drawn off the back of the knife and placed on the slide. The strip of toilet paper holding the sections on its under surface is then held in position by winding with a fine thread. Often one experiences some difficulty in getting all the sections off the slide at once, especially if the knife be not perfectly polished. If preferred, the sections may be removed from the knife singly. This can be done by using a heavy paper spatula, which is placed directly upon the section, to which it adheres, and may then be transferred to the slide; by slight pressure, together with a gentle rolling movement, the section is left in the desired position. The strip of toilet paper may then be placed over the sections as before.

Sections thus firmly held in position on the slide may be stained, decolorized, counter-stained, cleared, etc. Celloidin sections should never

be placed in absolute alcohol, but cleared from 95 per cent. in a mixture of equal parts cedar oil, bergamot oil and carbolic acid. When cleared, the excess of fluid is removed by a piece of blotting paper, the threads cut and the strip of toilet paper rolled back, as shown in Fig. 3, balsam and cover applied. Should some of the sections adhere to the toilet paper when it is rolled back, it is necessary to bring the strip of paper back and gently press upon those sections which have remained attached; by repeating this process it is not difficult to cause these sections, like the remainder, to adhere to the glass.

If the object can be stained *in toto*, which is often the case, much time may be saved by the following method: The stained object is embedded in the usual manner, but after hardening in chloroform it is transferred to 95 per cent. alcohol for twenty-four hours and then to the clearing mixture; it is fixed to the block in the manner named above. The block and its attached celloidin mass is then placed in the above named clearing mixture until it becomes as transparent as glass. The object can

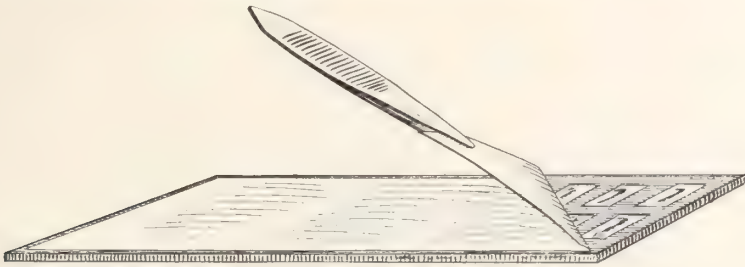


FIG. 3.

now be oriented with ease. In cutting, the knife is wet with the clearing mixture. The sections are arranged in serial order on the knife blade until a slide full is obtained, when they are transferred by a strip of paper, the paper rolled back and balsam and cover applied.

From small objects where reconstruction points are not needed the following method may be advantageously employed: The heads are clipped from fine insect pins, which are then placed in handles in such a way that they may be easily removed. On these pins the objects are oriented in the desired position; the pins are then removed from the handles and fixed in cork (Fig. 4) previously perforated by a somewhat larger pin. As fast as the pins carrying the objects are inserted the cork is replaced in the specimen vial, which is filled with alcohol. A half dozen fish or amphibian ova may be oriented on the same cork. If desirable to draw the objects *in situ* a piece of lead may be pinned to the cork and the whole immersed in a small beaker of alcohol. The corks carrying the oriented objects are transferred successively to vials containing the different solutions. When ready for final embedding a piece

of porous paper is wrapped about the vial and cork and pinned to the cork. The cork is now removed, allowing the embedding solution to fill the paper tube thus formed. A lead is fastened to the cork and the whole placed in chloroform until hardened, after which the paper is cut from the mass and the pins drawn through the cork, when it is ready for sectioning. This method offers many advantages, in that several objects may be cut at the same time; drawings may be made after orientation.



The writer has given these methods with the hope that they may be of some service to the physician in utilizing the valuable material which so frequently comes into his hands. If the physician cannot spare the time to investigate this material he is in position to greatly aid embryology by loaning or donating such material to the embryologist.

As a final word, it may be permissible to say that the department of anatomy of St. Louis University is doing research work in these lines, and that its members would highly appreciate the co-operation of those physicians who are interested in facilitating and encouraging investigations in human embryology.

THE USE OF THE WIRE NAIL IN JOINT FRACTURES—WITH
REPORT OF TWO CASES.BY NATHANIEL ALLISON, M. D., and HAROLD W. JONES, M. D.,
of St. Louis, Missouri.

CASE I.—Boy of fifteen on November 30, 1903, fell from a ladder a distance of twelve feet, striking, as far as could be learned, directly on his right shoulder. He was seen a few hours after the accident and a diagnosis of subcoracoid dislocation of the humerus made, since what was apparently the head of the humerus was felt beneath the coracoid process. At that time there was considerable swelling, which rather obscured the landmarks. An anæsthetic was given and an attempt made at reduction; during this, crepitation was felt, and it was deemed advisable to have the patient skiagraphed immediately, as a fracture was suspected. Plate No. 1 is the skiagraph, which, of course, immediately removed all doubts as to the nature of the injury, since it showed an unmistakable fracture at the surgical neck of the humerus with forward and upward displacement of the lower fragment.

Operative treatment was at once decided upon, as it was deemed useless to attempt reposition by manipulation. The dangers of any manipulations, with the possibility of injury to the nerves and blood vessels, were thoroughly appreciated. The patient was accordingly removed to the hospital and prepared for operation, which was done the following day.

Operation forty-eight hours after injury. The patient was etherized, a pad being placed under the shoulders, and an incision four inches long made, beginning one-half inch above the tip of the acromion, and continued directly downward in the middle of the deltoid. This is not the usual incision for exposing the shoulder, but the bruised condition of the tissues anterior to it made it necessary. This was carried down to the capsule, and the whole field was exposed rapidly by blunt dissection. The circumflex nerve was seen and carefully avoided. The upper end of the lower fragment was found about one inch anterior and slightly external to the head. There was a small rent in the lower part of the capsule, which was opened to expose the head fully. The joint cavity was cleared of blood clots, and it was then attempted to replace the lower fragment and secure apposition between it and the head. This was accomplished with some little difficulty, so much had the muscles contracted. It was finally accomplished by having an assistant make downward traction on the arm, while the operator, placing a flat periosteum elevator, three-fourths inch wide and rather thin, into the joint cavity, up against the lower end of the upper fragment, forced the upper end of the lower fragment down this improvised inclined plane into place. This instrument prevented the lower fragment from overriding the upper

during reposition. The apposition was excellent, but in order to run no risk of further displacement a wire nail (an ordinary French round nail) two and three-fourths inches long was driven through the head down into the shaft, taking care to drive it well into the cortex. It held beautifully, and the head rotated as the arm was moved quite as it should normally: that is, the anatomical restoration was perfect. The capsule was closed with interrupted fine silk, and the torn periosteum sewn



PLATE 1.

in the same way. The deltoid, which had been cut, was repaired with interrupted catgut, the wound wiped perfectly dry and all bleeding points secured. Wound closed with continuous fine catgut. Put up in plaster shoulder cap, going all the way round the body and down to the elbow. Velpeau bandage. Good recovery.

The case progressed without cause for comment. By the third day the patient was up and about, and left the hospital on the sixth day with a normal pulse and temperature. On the tenth day a window was cut in

the plaster and the wound found to have healed by first intention throughout its extent. On the twenty-sixth day the plaster was removed, and a few days later all bandages were discarded. At this time there were about twenty degrees of abduction, which steadily increased under passive movement daily. In a week or two active movements were given and motion in the joint steadily increased. At this time, three and one-half months after operation, the boy uses the right arm nearly as well as



PLATE 2.

the left, rotation being perfect. The motion in abduction is still limited about one-third, but the patient is gradually overcoming the limitation in this direction. The nail can be felt, but gives no trouble. It may be necessary to remove it later. Plate No. 2 shows the condition thirty days after operation.

CASE II.—Man of thirty-four years. Twelve years ago in Germany received a fall fracturing his right hip. Was treated in a hospital in Berlin, the method of treatment being a plaster spica. He recovered in six

weeks with an actual shortening of two and three-fourths inches. The man sought treatment on account of the lameness incident to this shortening, which made it necessary for him to wear a high sole. Examination showed a healthy young German of good muscular development, the only abnormality being the condition in the right hip. There was an enormous projection of the great trochanter, its upper margin being fully two and one-fourth inches above Nelaton's line. Motion in the



PLATE 3.

joint was found to be about forty-five degrees in flexion and five or ten degrees in abduction, although the limb was held in a position of adduction. There was great thickening throughout the joint and one and one-half inches atrophy of the right thigh. A skiagraph was taken (Plate No. 3), which showed an extreme coxa vara, produced by vicious union following a fracture of the femoral neck.

Operation was advised for alleviation of the deformity and the patient entered the hospital immediately. Operation performed on January 24,

1904. Patient in left latero-prone position with the right hip slightly flexed. A curved incision eight inches long made, with its convexity upward, its upper limit being about one-half inch above the upper margin of the great trochanter. This was carried directly down to the joint, dividing in line with the skin incision, the fascialata, gluteus maximus, gluteus medius and gluteus minimus. The pyriformis and obturators were retracted, capsule exposed. The capsule was then divided in the

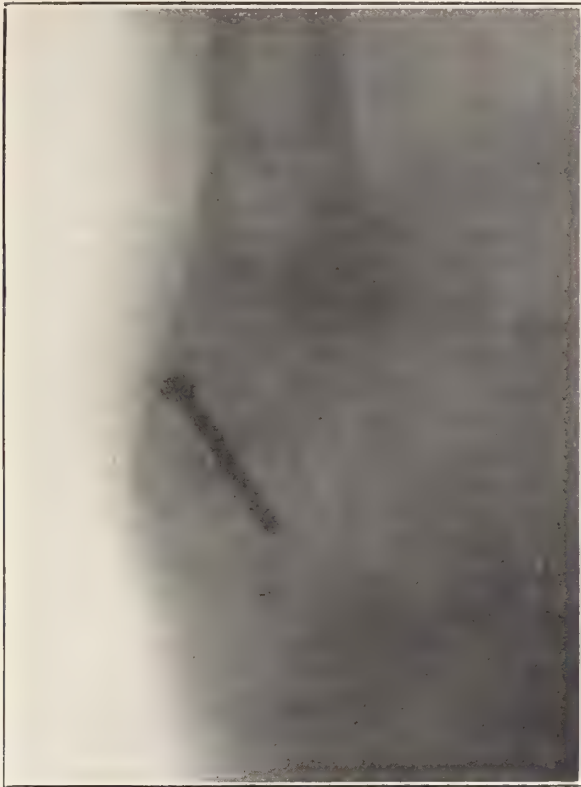


PLATE 4.

same line, exposing the neck of the femur, the condition of which was as shown in Plate No. 3. With an osteotome, a wedge-shaped piece, its base uppermost, one-half inch wide, was removed from the neck. The removal of this wedge divided the outermost portion of the neck completely from the shaft. The limb was abducted about twenty degrees, but as this seemed insufficient to accomplish the necessary correction, another wedge of bone was removed from the neck which allowed fifteen degrees additional abduction, about forty degrees, in all.

Strong traction was then exerted by an assistant, and while still held in extreme abduction a wire nail three inches long was driven through the great trochanter and neck. This held the fragments in excellent apposition and assured their remaining so. The capsule was then closed with catgut, and the divided muscles united in layers with chromicized catgut, after which the wound was closed. As an additional safeguard, the adductor longus was divided subcutaneously near its origin. A plaster of Paris spica was then applied from toes to umbilicus holding the leg in forty degree abduction. The patient made a good recovery.

The patient made an uneventful convalescence, and remained in bed five weeks. He was not given crutches and treated as an ambulatory patient, on account of the extreme abduction. At the end of five weeks the plaster was removed and the wound found healed by first intention. Inspection showed that the deformity—that is, the extreme prominence of the great trochanter—was no longer apparent. Careful measurement showed that there existed but one and one-fourth inches shortening, as against two and three-fourths which was originally present. Motion in flexion was allowed to about ten or fifteen degrees without pain. Union seemed perfect. A short spica was now applied, and the patient given crutches. In another week all dressings were removed and a skiagraph taken (Plate No. 4). In this picture the nail presents a foreshortened appearance on account of the outward rotation of the foot. In another week the patient discarded crutches and walked with a cane. At the expiration of eight weeks from the time of operation the patient began to walk without any support, and is now able to get about with very little disability. The motion in the hip is still limited, but is gradually increasing, and the patient is much gratified over the outcome. Indeed, he thinks that his crippled leg is now as long if not longer than the other.

The operative treatment of fractures involving the joints is of particular interest, since it aims to prevent serious deformity and loss of function in the case of fresh fractures, and to relieve a corresponding condition in old fractures where vicious union has occurred. That fractures into joints are generally accompanied by considerable deformity and often by permanent disability must be admitted as a fact, and that the poor or indifferent results are due to inadequate treatment; that is, non-approximation or faulty approximation of the fragments may at least be presumed. Attempts at manual reduction are often ineffectual, and are not infrequently accompanied by considerable danger; moreover, if reduction is accomplished, and the fragments are approximated, their maintenance in proper position depends upon a retentive dressing or traction, whose usefulness is oftentimes eliminated by some slight external cause. In operative treatment we have the advantage of dealing with the fragments directly and of placing them in what we know to be the proper position, and of holding them there.

In the two cases reported, an inspection of the radiographs will show how impossible it would have been to accomplish anything by non-operative treatment. Case No. 2, in fact, shows the result of non-operative treatment. We assume that in this case everything was done that could be done in a non-operative way, yet the result was an extreme and distressing deformity.

Scudder,¹ in his excellent work on fractures, in referring to fractures of the surgical neck of the humerus, advises operative procedure where manual reduction fails. He advocates the use of silver wire to hold the fragments in position. To the writers, silver wire has certain faults: it requires the boring of holes which must correspond, the passage of the wire which is often troublesome, the twisting of the wire sometimes results in its breaking, and, lastly, it often fails to hold the fragments firmly, thus throwing the responsibility of holding them in approximation, upon a frail wire and the retentive dressing. Some more stable bond of union between the fragments would, therefore, seem advisable, and to this end the writers have used a wire nail, which presents the obvious advantages of being easily driven into position with a few strokes and in a few seconds, and when once in position, of holding the fragments in approximation with admirable firmness, reducing the liability of subsequent displacement to a minimum. In case No. 2, where the hip was involved, a wire would have been most difficult to apply and would have been, at the best, of doubtful efficiency.

Whitman² recognized and pointed out the necessity of operative treatment of traumatic coxa vara. He advises forced abduction with maintenance in a plaster spica in fresh fractures in children, and cuneiform osteotomy, followed by the same treatment in old cases. He does not mention wiring or pegging the fragments as of necessity. In children doubtless union will occur in such cases, even if approximation of the fragments is not perfect. With adults the all too common result of non-union in fractures of the femoral neck would seem to indicate that the foregoing procedure is necessary.

A skiagraph, which will show the conditions definitely, is absolutely necessary in these cases before operative treatment, or, indeed, any treatment, is undertaken.

The writers wish to thank Dr. Willard Bartlett of this city for his advice in these two cases.

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2. Whitman: *Orthopedic Surgery*.
3. A. J. Gillette: An Operation for Ununited Fracture of the Neck of the Femur. *Trans. of American Orthopedic Association*, vol. xi.

FIXATION OF THE KIDNEY WITH REGARD FOR ITS
PHYSIOLOGICAL EXCURSION.*

BY VILARY P. BLAIR, M. D., of St. Louis, Mo.

Any man who thinks he has discovered or contrived something new under the sun sets himself at variance with the wisdom of Solomon, and must not be disappointed when he finds that he is mistaken. I will make this difficulty of finding something new my excuse for presenting a somewhat threadbare subject.

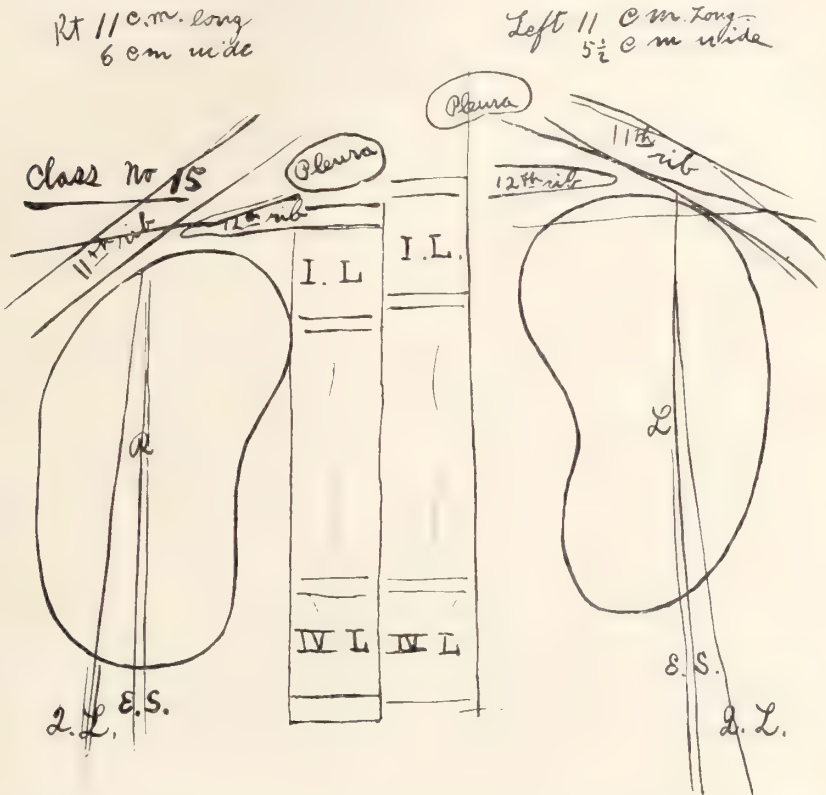
Until recently I did not know that previous to August, 1902, any attempt at fastening a kidney by means of ligaments made from its fibrous capsule had been reported, but in the *Medical Record*, January 22, 1901, Arnold Sturmdoff tells of such a method which he had employed, and calls attention to a report of the same structure being used by Robert T. Morris, who in turn had seen a description of an operation of the same kind somewhere in German literature, but he had forgotten the author. Before describing the technique proposed, it might be well to review some of the factors that have been productive of such a vast number of different operations, which very number is suggestive of the fact that none of them can be perfect.

He who would correct a deformity should first have a definite idea of the normal, and also know wherein the abnormal varies. Herein seems to be the first stumbling block. The percentage of occurrences of movable kidney is stated by various statisticians as being from one-tenth to forty per cent., varying with the opportunities, skill and mental attitude of the observer. Any true explanation of the discrepancy in these figures may throw some light on the subject, and I hope I may be pardoned, therefore, for the following digression.

The percentages referred to are drawn from different classes of individuals, and made by different kinds of observers. The least per cent., one-tenth, is the result of post-mortem observation. The highest comes from the observations of the gynecologists and men who have in charge sanatoria for neurotic women. This gives us the first hint. Men doing autopsies as a rule are not seeking carefully for the detection of the condition, and probably will not notice it unless it is very pronounced, and, besides, the subjects of autopsies have in most instances been in bed for some days or weeks before death, the kidney having had a chance to assume a normal or nearly normal position. On the other hand, this condition is more common in women than in men. In women the narrowness of the upper part of the abdominal cavity, the bony walls of which impinge upon the subjacent viscera in every motion of bending or turning, the kidneys find a welcome in the breadth of the lower abdomen and false pelvis. As movable kidney may cause symptoms for the relief of

* Read before the St. Louis Surgical Club, February, 1904.

which the patient seeks a gynecologist, a neurologist or a rest-cure sanitarium, and as these men are on the alert to discover this condition, and



The above is a copy of a specimen of the record sheets that are kept by the students in the anatomical laboratory of the Washington University. For this particular record a hystographic diagram of the two kidneys is given for each subject, with written request that the student indicate on it—the relations of—

First—The location of the twelfth ribs.

Second—The relation of the vertebræ to the kidneys.

Third—The lines of reflection of the pleura from the diaphragm.

Fourth—The relation of the outer borders of (a) the quadratus lumborum (b) the erector spinal muscles to each kidney.

Each record is signed both by the student making the record and the demonstrator who checks up the work. The records are filed for reference with the other records from the same body, and it is upon a collection of these records that the anatomical data is based.

are particularly expert in detecting it, their percentage of findings will be very great.

Another thing which has a bearing is the lack of uniformity in the definition of what constitutes a "movable kidney." While some men

will count as pathological every kidney whose excursion can be detected by manual palpation along the ribs, most men concede that the kidney has a natural excursion corresponding to the movements of the diaphragm. It must follow that in a certain group of cases the man who regards every tangible excursion as pathological will find a larger number of "movable" kidneys than will the man who considers that a certain amount of motion is normal. Waterson, of Boston, gives the extent of this normal excursion as being between one-half and one and one-half inches, while Byron Robinson places the limit at three inches.

An unsettled point which has a direct bearing on this, is the natural position of the kidney in the loin. This is variously stated as being any where from in front of the last two ribs to below the ligamentum arcuatum externum.

Our dissecting room records show that between the limits of the eighth rib and the ilium the kidney has no regulation position. It may lie with its upper poll in front of the last two ribs more often than in any one other position, but this rule is not very apparent.

If you grant that the kidney has various normal positions, and that the principal structure in retaining it is the upper part of the fatty capsule and the peritoneal reflexion from the diaphragm, you will have the key to the varying conjectures as to the extent of its normal excursion, for the higher its location the higher on the diaphragm it will be attached, and the higher on the diaphragm the more movement will there be with each respiration; on the other hand, the higher the location of the kidney the more difficult will it be to detect this motion by palpation. These facts must tend to show the uncertainty of preoperative statistics, and I believe that in many instances post-operative statistics are just as unreliable.

First, the great majority of cases cannot be observed sufficiently long to be sure that the new anatomical relations are permanent. As a rule a surgeon does not have a chance to observe remote poor results in his own cases.

Second, the symptoms for which the operation is often done come under the head of "nervous," and usually with the operation is instituted treatment and education for the palliation or cure of these nervous symptoms.

We must beware of accepting statistics either as to the anatomical or physiological results of the operation in other instances than where the kidney has an excursion limited only by the structures attached to its pelvis, and where the symptoms are unmistakably the result of tension, torsion or bending of these structures, or of pressure upon the neighboring viscera, and I do not think this embraces the majority of cases operated upon. If these statistics are not reliable we are still justified in indulging in theories based upon anatomical facts.

This natural excursion of the kidney is of the greatest interest to the

men who propose to fix the organ because, first, this must be determined before a slight excursion can be said to be pathological. Second, if any excursion is normal, then any operative procedure which has for its purpose the absolutely stationary fixing of a kidney in the lumbar region in a manner that is abnormal must be viewed with question, and we must not be totally unprepared for failures following such a procedure. Failures may be of two kinds: first, those in which the kidney breaks away from its anchorage, and, second, those in which the symptoms are not relieved though the kidney is retained. Failures of the second kind are probably more often due to a poor diagnosis than to faulty technique; but any operation that has for its purpose the stationary fixing of the kidney, and which is successful in this purpose, must be responsible for some of the failures of both kinds. An organ that has a slight excursion is better able to avoid the damaging effects of applied force and to correct faulty rotation on its own axis which interfere with its blood supply and the drainage of its excretions. George H. Mallett, of New York, ascribes many failures of the second kind to a rotation outwards of the kidney on its long axis accompanied by pulling at the vessels and kinking of the pelvis, which result from the fixing of the outer border of the kidney in a lumbar wound. The vast number of reliefs reported to have followed such techniques must make one hesitate to offer criticism other than that the operator was probably not entirely successful in his attempt at absolute fixation of the organ, and that nature adjusted the fastening sufficiently to allow proper function. Some operators have attempted to imitate nature more closely by restoring the continuity of the natural fastening of the kidney by its fatty capsule and the peritoneum; but here again we are using as a means of suspension a tissue that has yielded before and we have no guarantee that it will not do so again with the recurrence of the predisposing conditions.

It was while figuring over these conditions of which I have here given the barest outline, that it occurred to me we had at our disposal a tissue from which unyielding live fibrous ligaments could be made, which would be strong enough to support the organ, could be made of sufficient length to allow of requisite movements, and still retain the fatty capsule as a bumper or cushion. By means of the elongated peritoneal covering the kidney is drawn up to the lumbar wound but not eviscerated. Three transverse cuts are made in the fibrous capsule, one inch apart, extending from the hilum to the external border, care being taken to in no place injure the cortex. The ends of these strips of fibrous capsule are cut in such a way as to raise them up alternately so that there will be two from the dorsal border and one from the pelvis. The free ends of these strips are grasped by the forceps and passed through the fatty capsule at points that will correspond to their attached ends. The fatty capsule is now stitched over the dorsum of the kidney, covering the raw surfaces of the cortex. The protruding strips of the

fibrous capsule are now passed through the lumbar fascia and through the muscles of the back at points corresponding to the desired position of the kidney and fastened in the superficial fascia with catgut sutures. Before the fibrous strips are drawn as far into the parietes as desired, the peritoneum around the kidney is caught in convenient places and tacked to the lumbar fascia in such a way as to draw it taut over the anterior surface of the organ, thus restoring another of its natural supports. This idea is borrowed from Dr. W. B. Dorsett's operation for movable kidney. The lumbar wound is now closed with or without drainage.

The objects aimed at here were to give to the kidney as many as possible of its normal attachments with the addition of two or three well attached suspensory ligaments of live tissue. I say two or three, because if we attempted to place the kidney high up behind the floating ribs it would be found almost impossible to deal with the upper strip of fibrous capsule in the way described, nor could the peritoneal covering be attached to the diaphragm.

In the communications already referred to Morris suggests taking up a broad flap of the fibrous capsule corresponding to nearly the whole of the posterior surface of the kidney attached at its outer border and fixing it in the lumbar muscle; while Sturmdoff believes that he has devised an improvement by cutting the fibrous capsule down the middle of the dorsal surface and turning shorter flaps of the same breadth which are attached at the dorsal and pelvic borders, respectively. Neither of them mentions any measures directed towards the peritoneum or fatty capsule and it is probable that both leave a bare cortical surface to become attached to the lumbar fascia which may be an advantage.

As I said, in the operation described, I attempted to imitate nature. It was worked out on theories that seemed good to me and practically it has not proved unsatisfactory so far. Whether it is a real improvement or otherwise, or whether the whole diversity of technique is just a matter of splitting hairs, I am not prepared to say. I simply offer the suggestion for what it may be worth.

CLINICAL REPORT.

REMARKS ON SOME SELECTED CASES OF ECTOPIC PREGNANCY.

BY WALTER B. DORSETT, M. D., of St. Louis.

I have, as near as I can estimate, operated upon about forty cases of extra-uterine pregnancy. The indications for the operation have been varied. The results, considering the condition of the patients, have been good. Several cases had not been diagnosticated as ectopic gestation, and while this was true, they were cases that presented symptoms demanding surgical intervention.

The first case that I personally attended was in a woman about thirty-five years old who fell dead after running violently up-stairs at the St. Louis Female Hospital. The diagnosis in this case was heart failure, inasmuch as an examination on her admission to the hospital revealed serious cardiac lesions. The post-mortem examination of the abdominal cavity revealed blood in large quantities in the cavity, a ruptured fallopian tube, and a fetus of about six weeks' gestation.

The second case was one in which, on account of a tumefaction and symptoms usually attending a suppurative appendix veriformis, a diagnosis of appendicitis was made by two good surgeons. An operation for the relief of the trouble revealed an extra uterine pregnancy of about five weeks' gestation. A continuous and persistent hemorrhage from the uterus prompted me in another case to curette the uterus for a supposed retained placenta following a supposed early abortion. Failure to check the bloody discharge, and the appearance of tumefaction in the right tube accompanied by a sudden and violent pain on the side, suggested extra-uterine pregnancy, and an operation revealed a distended broad ligament and ruptured tube with fetus enveloped.

I have operated on four other cases in which diagnosis of hemorrhage following supposed abortions, and in whom curettement had been done by attending physicians.

So far as literature is concerned, but little is found to guide even the most careful student in an unerring manner toward a diagnosis, so that positive symptoms of ectopic pregnancy are frequently wanting. This is particularly true in tubal pregnancies prior to the rupture of the enveloping structure of the gestation sac.

Incorrect diagnosis as to the cause of hematoceles and pelvic abscesses have in many instances been made. The cause of error in these cases is often due to the want of clear histories, which we look for as guides to enable us to formulate a conclusion in a given case. Positive findings—

as, for instance, the presence of a fetus or chorionic villi in or adjacent to a blood clot—will settle the question on operation; but we must remember that negative findings, as the absence of both fetus and chorionic villi, do not militate against a diagnosis of extra-uterine gestation,



This specimen taken from patient who had all of the symptoms of extra-uterine pregnancy, having had four attacks of very severe pain followed by syncope. It illustrates a case of tubal abortion. The feet and legs are shown emerging from finbriated end of tube. The right hand and forearm are shown at the left side of the cut. An incision was here made to better show fetus *in situ*. The chorionic villi are seen protruding from the ampulla of the tube. The ovary is seen on the right side of cut.

for the reason that the peritoneal fluid often acts as a digestive agent and effectually destroys all such evidence.

The clinical history of the patient may or may not justify the surgeon in arriving at a diagnosis of extra-uterine pregnancy, and he is often led to an operation solely by the indication for a celiotomy. In other words, does or does not a particular case present symptoms demanding a section? There may or may not be a history of shock, internal hem-

orrhage or concealed hemorrhage, the presence or absence of a discharge of decidua from the uterus, the presence or absence of a tumor in the pelvis external to corpus uteri, a clear history of a previous pathological condition of the tubal mucosa (and, as a consequence, a history of sterility of from five or to ten or fifteen years' standing, or no history of such a condition), and still the patient may have an extra-uterine pregnancy. The question, then, as to the propriety of an operation in most cases should be the urgent symptoms that are presented. This is true in most cases that come under the observation of the surgeon, but by no means does it include a few other cases of ectopic gestation in which urgent symptoms are not present, and in which the even clear histories of hemorrhage per via naturalis, the previous pathological condition of the tubes, the presence or absence of a tumor or tumefaction. All of these taken individually and collectively, should be the guides. We should always bear in mind that every case should be "a law unto itself."

To illustrate the latter these cases can be used:

Case 1.—Mrs. H. S., aged twenty-three, married six months, entered the hospital December 19, 1900. Physical condition good; no history of previous inflammatory disease of tubes or ovaries prior to marriage. Menstruation always regular since its beginning; menstruated in normal manner one week after marriage. About one and a half weeks later began to have pain in the right iliac region. On bimanual examination a painful tumor could be outlined midway between the uterus and the abdominal end of the tube. Temperature slightly elevated, and pulse a little faster than normal. On opening, an encysted blood tumor was found, which, when disturbed, showed a tubal connection, and later a ruptured tube and small fetus with chorionic villi. Patient recovered without a bad symptom. In this case the only symptom worthy of note was the painful tumor.

Case 2.—Miss E. S., aged twenty-three, entered hospital September 9, 1903. Gave no history of shock or sudden pain; no history of discharge of deciduous membranes from the uterus. About one week before entering the hospital complained of heaviness in the pelvis. Bimanual examination revealed a fluctuating mass in the cul-de-sac of Douglas. Patient was anesthetized and Douglas' pouch incised. Quite a large amount of pus was discharged, and towards the last a macerated fetus. In this case the only guide was the fluctuating abscess in the pelvis.

Case 3.—Miss A. A. No direct symptoms pointing toward extra-uterine pregnancy. Chief symptoms vomiting and pain in the pelvis. No history of shock at any time. Examination revealed only a soft, retroverted uterus. Palliative measures to relieve the vomiting, and rest in bed, were ordered. Only after two weeks, when a bloody discharge from the vagina annoyed the patient, was another examination made and a tumor was found. Operation showed a large hematocele and fetus of about

five weeks' gestation. This patient came very near dying, and was saved only after two intravenous injections of normal saline solution. The absence of food consequent upon the long-continued vomiting, together



This specimen was taken from Mrs. G., the patient with fibroid tumor. There were no symptoms pointing toward extra-uterine pregnancy, and the operation was indicated solely by pain, which was not characterized by distinct attacks. They were constant in character. Owing to a ventro-fixation of the uterus and removal of the left tube and ovary, the uterus in part was removed with considerable difficulty. The patient made an uninterrupted recovery, and is now well.

with the loss of blood, had so debilitated her that death from exhaustion was threatened.

Case 4.—Mrs. G., colored, was examined bi-manually and a clearly outlined fibroid tumor made out between the layers of the broad ligament on the right side. Just above the growth was detected a fluctuating mass which was taken for a fluctuating pus sac. None of the symptoms

usually accompanying intra or extrauterine pregnancy were mentioned or suspected. Operation revealed tubal gestation near the uterine horn and fetus still *in situ*.

The presence of fibroid growths situated near the tubes is mentioned by Roberts as an etiologic factor in tubo-cornual pregnancy. He claims that distortion of the tube by the fibroid tumor is the cause.

The accompanying photograph of the specimen shows the fetus *in situ*. At the time of removal this cavity was filled with laminated blood clot. Owing to a ventro-fixation and removal of the left tube and ovary some years previously, adhesions were so extensive that it was impossible, in doing a hysterectomy, to remove more than three-fourths of the body of the uterus. This patient made a good recovery and left the hospital in three weeks.

These cases are cited simply to illustrate the difficulties which surround the diagnosis of some cases of extra-uterine pregnancy, and also to indicate the necessity for surgical intervention.

From my experience I feel sure that extra-uterine pregnancy is a much more frequent occurrence than is usually supposed.

A CASE OF HEMIPLEGIA FOLLOWING APOPLEXY IN A GIRL SIXTEEN YEARS OLD.

By SIDNEY I. SCHWAB, M. D., of St. Louis, Missouri.

This case is interesting on account of the rarity of this condition at so early an age and on account of the difficulty of determining the exact nature of the process. To differentiate always between a hemiplegia due to a definite cerebral lesion and a hemiplegia due to hysteria may be a matter of the greatest difficulty and this difficulty is greatly increased when the age of the patient is much below that in which the hemiplegia following apoplexy is found. In such cases there is to rely upon such data as can be obtained from the careful examination of reflexes not ordinarily affected in hysterical conditions. Insistence is here laid upon the examination of the reflexes because the paralytic symptoms may be so masked or modified by previously existing conditions as to make their diagnostic value of comparatively little importance. One of the most reliable of the reflexes in a diagnostic problem such as is here presented is the Babinski reflex. Its diagnostic reliability is owing to the fact that in normal adults it is not found, that it is usually obtained on the affected side, if it is present, and that its presence commonly points to a disturbance of the function of the motor path due to an organic lesion somewhere in its course. The diagnostic difficulty in this case is further increased by the fact that the patient was examined for the first time two years after the apoplectic attack was supposed to have taken place, and

consequently there remained very little of the original clinical picture as described by the patient. It is further to be noted that the study of the gait, always a valuable index of the true nature of conditions of this sort, gave very little positive evidence one way or the other in this case on account of an injury of the right foot and ankle received in early infancy. The case is as follows: Edith B—, nineteen years of age, unmarried, a starcher in a steam laundry, came to the neurological clinic of the Grand Avenue Dispensary with a history of an attack apoplectiform in character two years before from which resulted paralysis of the left side of the body. Family history unimportant. She has always been considered a nervous child with frequent attacks of the milder forms of hysteria, that is emotional exhibitions, amnesia, etc. There is no history of any convulsive attacks or any attacks accompanied with unconsciousness. There has been no previous illness of any note. About six months before the present attack there appeared on the left forearm an eruption. The nature of this skin symptom cannot be learned. It evidently disappeared without any especial treatment. About six months after this she awoke one morning feeling very dizzy. She succeeded in getting out of bed to call for assistance and, without losing consciousness, she gradually became paralysed on the left side. A diagnosis was made at that time of apoplexy. The patient was kept in bed for a number of weeks. A condition of hemiplegia limited to the left side followed the attack. For a brief time following the attack the patient was apparently unable to speak though the understanding of words remained normal. From that time she has improved gradually, though she asserts that mentally she has shown no improvement. She has been to various clinics for treatment and advice.

Physical Examination.—The heart and lungs are normal. The urine shows nothing abnormal. The muscular strength of the two sides is equal and not diminished. There is no atrophy. The left arm is carried slightly flexed at the elbow. The fingers of the left hand are flexed on the palm with the thumb flexed beneath them. There are no contractures and no trophic changes. The muscles and the tendon reflexes are not exaggerated. There is some decrease in functional ability in this hand though not nearly as much as would be expected in a hand held in this abnormal position. The left leg appears to be normal. The gait is not characteristic. The right foot is contracted and pronated apparently causing the patient to walk with the weight thrown on what ought to be the weaker leg. The gait is certainly not to be considered hemiplegic in type. The cranial nerves are normal with the exception of a small area of analgesia limited to the middle and branches of the fifth on the left side. The pupils are normal. There are no sensory disturbances. The left knee jerk is markedly increased over that of the right. The same is true of the achillis reflex. There is no clonus in either ankle. There

is a marked Babinski on the left, while it cannot be obtained on the right at all.

Diagnosis.—It can be seen from this brief clinical account that a diagnosis in this case presented several difficulties. The important question to decide was whether, in this case, there was the result of some definite lesion to the brain, or whether this was a hysterical hemiplegia and the so-called apoplectic stroke simply one of the manifestations of this disease? In the absence of a valvular affection of the heart or arterial disease of a very pronounced type, and in a patient with normal kidneys, an apoplectic stroke at the age of sixteen years is almost unknown. That the condition was not hysterical is definitely proven by the fact that the Babinski reflex was present in so typical a fashion. Cases of this kind, in the absence of the above etiological factors, are commonly assumed to be due to a syphilitic process in the blood vessels of the brain. In the absence of a specific history and the lack of any confirmative evidence, this explanation must be regarded as very unsatisfactory. Notwithstanding that there is no adequate explanation of the cause of this condition, yet it is interesting to know that it is possible to differentiate very exactly between a hysterical and an organic hemiplegia in a case where the clinical history is doubtful, and where the ordinary means of diagnosis fail. If the Babinski is present, the organic nature of the disease cannot be questioned. It might be added that the patient was treated as though the nature of the process was specific. There has been no special improvement.

CORRESPONDENCE

HERMAPHRODITISM AND THE TRUE DETERMINATION OF SEX.

To the Editor of the INTERSTATE MEDICAL JOURNAL.

Dear Sir:—My attention has been called to an editorial in the February issue of your journal in which you offer some criticisms upon my operative procedure in a case of pseudo-hermaphroditism.

Recognizing the supreme importance of careful diagnosis, still I am not a little surprised that you set down that case as illustrating the necessity for the warning issued by Neugebauer in reference to the frequency with which surgeons make mistaken diagnoses of sex in similar cases. You say that it is hard to see how I arrived at the conclusion in my case that the female characteristics predominated, and imply that my decision to operate as I did rested entirely upon the patient's expressed wish that she desired to be made like a woman.

It seems to me that any one reading my article carefully could not fail to realize that her response to my question was the last step in the process of my investigation, and was simply my way of stating that I gained her consent to the proposed operation. I take it for granted that no surgeon has any right to any operation, least of all one of such delicate character as the one anticipated, without the consent of the individual. After I had made all my investigations, as a final step I asked her wishes. Her answer coincided with my judgment and accordingly I placed her in the hospital and performed the operation.

Your suggestion that the patient was allowed to guess her sex, and upon that the surgeon acted, is absurd. I did some shrewd guessing myself, founded upon careful study, not only of the physical characteristics but also of the mental traits, tastes and impulses. The appearance of the external generative organs, however well developed they may be, is far from determining the true sex. From an anatomical point of view the determining of sex rests upon the careful findings of the ovarian or testicular structure. These in their rudimentary state are difficult, and indeed in most instances impossible, to differentiate after the most careful expert examination. Such a test could not be applied without removing the organs, and to remove them, of course, is equivalent to unsexing the individual. So we must go beyond even what the microscope can reveal; make a study of the individual mental and emotional attributes from a physio-psychological point of view. As William Lee Howard says in an article on "Sex Perversion in America:" "A thorough understanding of the recent investigations in the anomalies of

1. American Journal of Dermatology and Genito-Urinary Diseases, January, 1904.

sex feeling, of sex perversion, and of the fact that there is something more in sex and sexuality than physical organs is absolutely necessary if we wish to render justice to our fellow-men. . . . The human embryo has within it the morphologic representation of both sexes. It soon acquires a sex distinction, and the course of normal growth and development places the child, male or female, in the world. In another case this morphologic representation of sex does not apparently develop along the same lines as does the anatomic, and the result is that a child is born with a physical development the antithesis of its sex growth. In other words, we have an unfortunate being in whom there is a total lack of harmony or relation between physical (anatomic) and psychic or sex instinct. . . . When, from the earliest recognition of self, the sexual instincts have been those of one sex and the anatomic organs are of the opposite sex, we must from a scientific point consider the sex determined by the mental factors. Hence, a congenital invert is not an individual whose sexual instincts are perverted, but one who presents an unfortunate anatomical anomaly."

Such are the factors I took into consideration in deciding the operative question. It is a well-known fact that all these individuals cursed with an anomalous development of the generative organs are, as a rule, sexual perverts, or, as Dr. Howard says, inverts. The apparent duality of development renders them objects of curiosity, not only to themselves but to others, and the sooner they can be relieved of the duality and the anatomical features made to harmonize with the psychic the better it is for that individual and for society.

If I failed to bring out prominently these features of the case in my report it is to be regretted. It is quite possible, however, that I left much to be read between the lines. As a matter of fact, in connection with the case, I have these further observations to record: The patient appeared at my office March 14th and reported that she had menstruated at intervals of from four to five weeks every month since the 18th of October last. There can, therefore, be no further question as to the propriety of the operation I performed.

I saw this patient at my office twice during her menstrual periods, the one in September and one in January, and convinced myself of the fact by examination. I did not think at the time that the discharge of blood in September could be counted as a regular menstrual discharge, but it having recurred regularly each month since that date I am satisfied that it was.

J. RIDDLE GOFFE, M. D.

New York, March 31, 1904.

REJOINDER TO DR. GOFFE'S LETTER.

The editorial in the INTERSTATE referred to by Dr. Goffe expressed, in brief, views on Dr. Goffe's case, published in greater detail in the February number of the *American Journal of Obstetrics*. Dr. Goffe does not mention this article, so that possibly he had not, at the time of writing the above, read it. I would refer him and the reader to that article for the exact reasons on which I based my conclusions as to his case.

There are four points in Dr. Goffe's letter I would like to touch upon:

(1) Dr. Goffe says he did not have his patient determine her sex, but only asked her consent to the operation. I shall quote his exact words, and leave the reader to judge what impression they conveyed (*Amer. Jour. of Obst.*, Vol. 48, p. 759): "The patient insisted that the growth was a great annoyance, that it made her different from other girls and she wanted it taken off. When asked if she preferred to be made like a man or a woman, said decidedly, 'a woman.' Accordingly, she was sent to the Polyclinic Hospital, and the operation was done."

I am glad to know that Dr. Goffe did not really intend to let the patient decide the question of sex, but it is by no means "absurd" to have supposed him to have this opinion, since Prof. Landau, of Berlin, in a recent article (*Centralblatt, f. Gynaek.*, No. 7, 1904, page 203) on this subject, argues that the patient *ought* to decide his or her own sex in these cases.

(2) Dr. Goffe says the diagnostic operation is equivalent to *unsexing the individual*. I fail to see his reasons for this. The sexual gland can be resected and the diagnosis made from the piece thus excised. Moreover, *both* glands do not have to be removed or resected, since no case of an ovary and a testicle in the same individual has been thus far proven. Cases where the glandular tissue is not sufficiently developed to make a diagnosis from such an excised piece occur, but in a considerable majority of cases a microscopic diagnosis can be readily made. In all five cases in which a diagnostic laparotomy has thus far been performed the nature of the gland was determined without difficulty.

(3) Dr. Goffe emphasizes the importance of the psychic sexuality. He quotes Howard's words: "When, from the earliest recognition of self, the sexual instincts have been those of one sex and the anatomic organs are of the opposite sex we must, from a scientific standpoint, consider the sex determined by the mental factors." In Neugebauer's writings we have many instances recorded in which, long after puberty, there was a change in the psychic sexuality of the individual. Such a "mental factor" is subjective, and can, as Neugebauer points out, be influenced by education, example and surroundings. The possibility of change in such a mental attribute or inclination must be acknowledged, but no testicle was ever known to change into an ovary.

The idea of sex is directly connected with the power of reproduction in

an individual of the human race. That power depends on the formation of certain sexual elements (ova, sperma) and the organ producing these elements (ovary, testicle) must be the determining factor in the diagnosis of sex, and not such a purely subjective element as sexual feeling or the psychic sexuality.

(4) Dr. Goffe's statement, that his patient has been menstruating regularly for the past six months, must of course remove all doubt as to her sex. But the fact that she proved to be a woman has no direct bearing on the question under discussion. Anyone who will look over Neugebauer's collection of cases of pseudo-hermaphroditism will find numerous examples of individuals presenting almost the identical features that Dr. Goffe's case did before operation that proved to be men. The diagnosis of sex, therefore, at the time of operation was very much in doubt, and I must consequently adhere to my opinion, that in this case, as in all similar cases, it would have been safer, before performing what might have proved a mutilating operation, to await the appearance of some positive signs of sex (menstruation, ejaculation of sperma) or to have performed the very simple diagnostic laparotomy.

In conclusion, I wish to say that the editorial and article referred to were not written in a spirit of criticism, but only to elicit discussion of a problem that, while dealing with rather rare conditions, is of undoubted importance, and has thus far been denied due consideration by the profession at large.

FRED. J. TAUSSIG, M. D.

St. Louis.

EDITOR INTERSTATE MEDICAL JOURNAL:

Dear Doctor:—Many thanks for the publication of my article in the February number of your journal.

I was much interested in the editorial comment published in the same number, about an operation performed by Dr. Goffe, and approve of your position in the matter. In an article published by Th. Landau in *Centralblatt fuer Gynaekologie*, 1904, No. 7, the propriety of amputation of the penis is defended both from a practical and theoretical standpoint. Landau bases his theoretical arguments upon a paragraph of the old *Prussian Landrecht*, which states that in all cases of doubtful sex the hermaphrodite, who is of full age, has the right to decide for himself to which sex he wants to belong. This paragraph would, then, for instance, permit a physician to amputate (even in the presence of testicles) a hypospadiac penis in a male who, by error, was raised as a girl, if this individual desired to continue his life under the disguise of a female. From a theoretical point of view, such a position can hardly be sustained. I would certainly refuse an operation if I should be able to ascertain the presence of testicles, and would in case of doubt insist upon an explorative operation to ascertain the true nature of the sex before I would amputate a supposed-to-be clitoris—which, however, may

be a penis. *Primum non nocere*. I have intentionally mentioned in my paper the one case where a man murdered a surgeon because the latter had removed his testicles during an operation for varicocele.

As a matter of fact, in most cases the parents of a supposed girl have approached the physician requesting the removal of an abnormally large clitoris—that is, at a period when the child certainly does not know whether it feels sexually as a male or female. In some instances girls of sixteen to twenty years of age asked for the removal of the supposed clitoris because they were engaged to be married.

The danger of a too ready compliance with such requests may be easily inferred from the experience that hermaphrodites raised as girls develop at a later date male sexual desire. It may be that retained testicles descend; it may be for other reasons. Some day pollutions appear, and the sexual instinct becomes distinctly male in character. This person then certainly wants to be a man. What shall become of him if a surgeon has previously removed his penis under the assumption that it was a hypertrophied clitoris? I am glad to see that a scientific discussion has been opened on this most interesting question.

In *Monatschrift fuer Geburtshilfe und Gynaekologie*, 1904, page 430, the paper of Geyl is mentioned. Geyl removed, in a "girl" twenty years of age, in compliance with the wish of the girl's mother, a hypospadiac penis and a membrane covering the vaginal opening. He did so although the physical examination made it more probable that the individual was a male than a female. He adds, in critic of my position, the sentence: "Much harm was done by Neugebauer when he forced individuals, who felt as females and were attracted by males only, into the male sex."

I can assure you that all the male hermaphrodites who were raised as girls and whom I had enabled to rectify their erroneous registration as females, were always extremely grateful to me for this change. I may be permitted to mention a few cases.

A person who made her living as cook, holds now the position as male cook with a considerably better salary, and is extremely happy to be able to cohabit with a woman without coming in conflict with the law. Stanislaus F., now twenty-one years old, feels very content as a workman in a factory. Theophile M., who was prosecuted under the charge of attempt to murder, owes his male sex to my testimony as expert before the court.

In one case I readily performed the amputation of the clitoris and opened the vaginal canal because I succeeded in ascertaining the presence of ovaries.

In cases in which I establish the male character of a hermaphrodite raised as a female, I suggest (but do not by any means insist upon) a change in the birth registers. These changes were only made on the special wish of the individuals.

I feel justified in claiming that, in the light of my actual observations, the theoretical contention of Geyl is void of any justification.

To a criticism of Opitz I have answered in *Centralblatt fuer Gynaekologie*, 1899, No. 17, and I shall take an early opportunity to answer Geyl's remark more explicitly.

FRANZ VON NEUGEBAUER.

Warsaw, March 2, 1904,

EDITORIAL COMMENT.

THE MEANING OF THE EXPOSITION TO THE MEDICAL PROFESSION OF ST. LOUIS.

The economic uses of a World's Fair, such as is at present in existence in this city, are well recognized. The added and awakened interest in art and all that the application into every-day life of the finer impulses thus aroused implies is no longer a matter of dispute; certainly not with the example of the Chicago exposition before us. Every calling, trade or profession finds something in an exhibition, as comprehensive as the present one, that works toward its advancement. To the medical profession of this city this Exposition has its special lesson, and it is perhaps well now, at its beginning, to take note of it and to be prepared to be receptive to its teaching. There is a shadowy side to all that the beautiful display at Forest Park brings, that to the sensitive medical soul outweighs its brighter aspect. That shadow springs to the front when we ask ourselves the question: What have we as a medical profession to offer to the hundreds of physicians who, in the course of the next few months, will come here? It is wise, perhaps, even now, to face the question and to cast up our accounts, as it were, and to see what we have to tell.

Of individual effort and of individual result there is here a sufficiency, but of concentrated, united and professional effort there is only a pitiful story. A medical visitor inquires first, above all, about hospitals and about medical schools. Of the former we must either remain silent or speak with frankness of the miserable tale of municipal neglect and professional indifference. The story we must tell is this: A material probably unsurpassed in point of clinical richness, housed in a building that some years ago was given up as unsanitary and unsafe by a Catholic convent, which had occupied it for over twenty years. This wonderful clinic is the absolute property of its superintendent, who for four years performs the double duty of its executive chief and its active medical officer. The superintendent is usually a surgeon, or has surgical tastes, and he uses this material, as he has a perfect right to do, to perfect his surgical knowledge. There are some seven hundred beds in this hospital and its branch. Under him there are a score or so of interns, who are hurried from department to department, utterly unmindful of the necessity or the existence of careful clinical study. There is no visiting staff, but merely a body of consulting physicians, appointed by no fixed rule, and whose duties are as vague as their usefulness. The place, for it cannot be called a hospital, is used for instruction—so-called clinical teaching, which is as antiquated as the rest of it. No teacher

there has either control or selection of the patients he is supposed to talk about. The spectacle of a professor of clinical medicine lecturing on a typhoid case he has seen for the first time five minutes before he begins to talk and never after he has finished, is full of humor, if it were not so inherently a part of the tragic story of helplessness on the part of the medical profession and of selfishness and neglect of those who are responsible for this sort of thing.

The same kind of story must be told of the Insane Asylum and the Poor-house. The latter houses over seven hundred insane cases, and its chief power is a non-medical man in the enjoyment of as grim a political gift as ever the devious mind of a practical politician conceived. Yet here at least, in the case of the Asylum, we can tell of the work of the late Dr. Runge, and point with a just sense of pride to his eight years of effort and his brilliant results under conditions the equal of which are only to be found in histories of medicine relating to the closing years of the eighteenth century.

The medical schools, or at least two of them, have shown progress. These two have ceased to be proprietary establishments for the manufacture of young physicians. They have shown evidences of the right spirit in the way of medical education and in raising the standard of entrance and graduation, so that there is room for a certain amount of pride in the story of their development.

The Medical Library is just beginning to fill the place that has been empty for so long a time, and the early struggle for its very existence is a thing of the past.

Leaving aside the more tangible evidences of medical progress or the lack of it, what is there wanting in this community to account for the absence of progress in some of the things that other communities, less important, have brought about with such apparent ease and success? If we look deeply and fearlessly into the thing, we are forced to admit that there is very little of what might be called the force of the most enlightened medical opinion. There seems to be no way to set this force into activity, or to direct and apply it when it is aroused. The civic spirit, so long dormant in St. Louis, but now being aroused, may be translated into terms of medical civic spirit, and would be productive of the same remarkable results. After all, it is the natural pride which one takes in his city, in his profession and in the things which grow out of these, which is the force that needs the quickening touch to spring into activity and to sweep away forever the antiquated methods and the last-century atmosphere which chokes the best-inclined effort towards medical improvement in our hospitals in this city. This is the lesson which the Exposition has the power to teach us. That it may teach it well, is the earnest hope of all those who have the medical interest of this city at heart.

MEDICAL OPINION AND STRABISMUS.

A striking example of the fatuousness with which the human mind clings to an erroneous notion which, for one reason or another, has obtained general credence, is afforded by the widely prevalent misconception of convergent strabismus as it occurs in young children. To define precisely this misconception would be impossible, as it appears never to have been clearly formulated, even by those who entertain it; suffice it to say, that it is wholly at variance with the accepted teachings of modern ophthalmology. By way of illustration, let us suppose that a child two years old with the beginnings of a convergent squint is brought to the family physician. After solemn self-communings and excoitations he is very apt to deliver himself of one of the following valuable (?) pieces of advice: (1) "Nothing can be done until the age of puberty, then an operation will be necessary;" or, (2) "Glasses will have to be worn, but the child is too young for glasses; wait until he is eight years old;" or, (3) "Very likely the child will outgrow the cross eyes; let's wait a few years and see." And so, with the cheerful assent of the doctor, the precious days, months and years are allowed to slip away. The squinting eye finally becomes practically blind from disuse, and the fusion sense is abolished never to be regained. Such are the grievous results of the workings of this sad fallacy.

In vain do ophthalmic practitioners the country over fulminate against such vicious ideas; in vain do they reiterate the fundamental truths concerning strabismus: that (1) in most cases it depends on a refractive error, usually hyperopia; that (2) squint can be said to be cured only when binocular single vision has been established; that (3) operation should always be the court of last resort; that (4) glasses fully correcting the refractive error should be constantly worn (no matter how young the child); that (5) treatment should be begun the moment the child begins to squint. Papers embodying these truths have recently appeared in such widely read general medical journals as the *Jour. A. M. A.*, *Medical Record*, etc. We can only hope that the seed has not fallen on barren ground, and that the day will not be far distant when every physician when confronted with a cross-eyed child will appreciate the gravity of the condition and his responsibility with respect thereto. Let him hesitate before expressing an opinion fraught with so much of good or evil for his little patient. Let him utterly discard his ancient formulas. And, above all, let him earnestly counsel against any delay in beginning treatment, for thus only can he feel assured that he is discharging his proper duty as a physician.

RUNGE MEMORIAL MEETING.

A public meeting commemorating the life and the medical and municipal work of the late Dr. E. C. Runge, will take place at Memorial Hall on the evening of June 2d, in conjunction with the annual convention of the American Medico-Psychological Association. Brief addresses touching upon Dr. Runge's various activities as an alienist and as a public official will be made by Drs. Robert Luedeking, Gustav Baumgarten, Frank R. Fry, the Rev. J. W. Day, and Professors H. C. Ives and Otto Heller.

The meeting will be open, and it is earnestly hoped that physicians will, by a large attendance, signify their appreciation of the service rendered by Dr. Runge to the profession as well as to civic life in general. President E. C. Eliot, of the Civic Improvement League, has been elected chairman.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Pneumococcus Peritonitis.—GHON (*Wiener Klinische Wochenschrift*, No. 10, 1904) reviews four cases under his own observation in which peritonitis was caused by the diplococcus pneumoniae (Weichselbaum). In each case a careful autopsy was made and bacteriologic examinations carried out. In the first case peritonitis followed an acute perforation of a round ulcer of the stomach. Within three days the patient died of a fully developed diffuse fibrino-purulent peritonitis. Microscopic and cultural examination of the exudate revealed exclusively the diplococcus pneumoniae.

The second case followed perforation of a cancer of the stomach. Only two species of bacteria were found, the diplococcus pneumoniae and a "long bacillus." The former were present in vastly greater numbers, however.

The third case was one of diffuse fibrino-purulent peritonitis following gastro-jejunostomy.

The fourth case occurred in a patient with carcinoma of the stomach, without perforation. The peritonitis was of lymphogenic origin.

Cases one and four must have received the infection from the swallowed secretions of the mouth, which so often contain virulent pneumococci. These patients showed no evidence of a pneumococci affection, acute or chronic.

Cases two and three, on the other hand, had pneumoniae simultaneously with the other lesions mentioned.

Typhoid Bacilli in the Feces and Urine of Typhoid Convalescents.—HERBERT (*Muenchener Medicinische Wochenschrift*, No. 11, 1904) examined the excretions of ninety-eight convalescents from typhoid, the urine 228 times and the feces 216 times. Typhoid bacilli were found in the urine of 18 per cent. of the cases, and in the feces of 3 per cent. of the cases. They were present in very large numbers in the urine and in very small numbers in the feces. In the cases in which the findings were positive, four were severe, eleven moderate and three very light. It is of great practical importance to know that the bacilli are so often found in the urine of convalescents during the first four weeks. The length of time intervening between the last day of fever and the disappearance of the bacilli from the urine is from eight to twenty-seven days. In the second month of reconvalescence, with one exception, the excretions were free from typhoid bacilli.

Concerning the So-Called "Typhus Diagnosticum." — RADZIKOWSKI (*Wiener Klinische Wochenschrift*, No. 10, 1904) tried the value of Fieher's "typhus diagnosticum," which is a modification of the Widal reaction, not requiring a living culture of typhoid bacilli, and found the results highly satisfactory. In every case in which the Widal method gave positive results the Fieher method did likewise and vice versa. In each case four tests were made; (1) the usual microscopic, Widal reaction, with virulent typhoid bacilli, in a hanging drop in a dilution of 1-50; (2) the microscopic, Widal, with Bouillon, dilution 1-50; (3) the modification of Fieher, with "typhus diagnosticum," dilution 1-50; (4) and the same in a dilution of 1-100. The tests were made in different stages of the disease, in the second and third weeks, in relapses and in convalescence. He finds the tests possible also in the dried blood specimen.

The serum of individuals who are not afflicted with typhoid never produces agglutination in dilutions of 1-50.

The author concludes that the "typhoid diagnosticum" can replace the virulent culture used in the Widal reaction, and has great advantages over this method. It is much simpler, requires less time and necessitates no laboratory equipment.

Agglutination of Typhoid Bacilli by the Blood Serum of Icteric Patients. — STEINBERG (*Muenchener Medizinische Wochenschrift*, No. 11, 1904) in a series of investigations with reference to this phenomenon concludes that there is no constant relationship between the presence of icterus and the agglutinating action of the blood serum on typhoid bacilli. A large number of cases in which marked icterus existed, due to different causes, gave no agglutination whatever. This would seem to prove that the constituents of the bile themselves possess no agglutinating qualities. Then, too, it has been conclusively shown by Eckardt and Koenigstein that the bile itself does not possess such qualities. It would seem, therefore, that where agglutination occurs in icterus it is due to factors accompanying the condition, and not to the presence of bile in the blood.

Historic Outline of Cardiac Pathology and Clinical Aspects of Chronic Myocarditis. — CAMAC (Bulletin of the Johns Hopkins Hospital, February, 1904) presents an exhaustive historic outline of cardiac pathology in a very interesting manner. He divides the subject into three epochs.

(1) The epoch of ancient medicine, 1500 B. C. to 300 A. D. During the early part of this epoch Hippocrates had declared that the heart could not be diseased. Erasistratus noted the synchronism of the pulse and heart beat, and discovered the valves of the heart. During the latter part Celsus concluded from the diseased hearts of animals that man's heart may also be diseased. Galen demonstrated that the arteries contained blood, not air.

(2) Epoch of mediæval medicine, 300 to 1400 A. D. For sixteen centuries, a period extending from the epoch of the Alexandria school to the school of Salerno, the human body had never been dissected. The grossest ignorance and superstition prevailed during this time.

(3) Epoch of modern medicine, 1400 to 1900. Actiology, signs and symptoms, inspection, percussion, auscultation, prognosis and treatment are discussed in detail. The following points are emphasized: (1) The normal anatomy and physiology of the heart must be closely studied by the clinician.

(2) The knowledge of the pathological anatomy and physiology is essential to clinical study.

(3) The study of myocardial disease must be greatly extended by bedside observation. This can only be done by an honest limitation of our clinical conclusions to the evidence at hand.

(4) The diagnosis must be made in the early stages of the disease.

(5) Even with the best methods, the diagnosis of chronic myocardial disease at least is difficult, and its nature obscure.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Acute Non-Purulent Thyroiditis.—DR. F. DE QUERVAIN (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Second Supplement, 1904).—This very exhaustive article of 165 pages makes up an entire number of the journal. It is illustrated by six large tables and most thoroughly goes over everything in connection with the thyroid excepting tumors. The author reports sixty-three cases from the Kocher clinic, and describes each disease in detail. Fifty autopsies are reviewed, as well as a large number of animal experiments. The scope of the article is apparent when it is noted that there are one hundred and nine literature references and thirty-five figures by way of illustration. It is impossible to go further into details in a short review.

The Preparation of Catgut.—M. LUCAS-CHAMPIONNIERE (*Bulletins et Memoires de la Societe de Chirurgie de Paris*; Tome xxx, No. 10).—The extremely simple procedure advocated by the author, a distinguished French surgeon, would hardly fulfill the requirements of modern American asepsis. He seems surprised that some object to sterilization other than by heat, and says that he has used his own simple method for twenty-five years with perfect success. He places the raw material in this mixture: Olive oil 100 parts, absolute carbolic acid 20 parts, water 2 parts. At the end of two or three months the gut is supposed to be ready for use, and answers all the mechanical as well as aseptic requirements. A few hours before operating, the gut is placed in turpentine, where it may be left a week if desired.

Blood-Pressure Observations in Surgical Cases.—(Report of the Committee on Research for the Division of Surgery, Harvard Medical School, January, 1904. At the Boston City Hospital, by Wm. E. Faulkner,

M. D. At the Boston Children's Hospital, by James S. Stone, M. D. At the Massachusetts General Hospital, by Fred. T. Murphy, M. D. Summary of Results, by Committee on Surgical Research. The *Boston Medical and Surgical Journal*, March 10, 1904).—Nothing better illustrates the scientific tendency prevailing among the surgeons of Harvard University than this investigation of blood pressure. The various clinics turned over all their resources to different men, who endeavored to get at the practical clinical value of blood pressure, and as a result it was the consensus of opinion that the Riva-Rocci apparatus is of value in only a small number of cases. Cerebral compression and shock caused the most marked alterations, and hence these two conditions furnish us with the greatest possible benefit which can be derived from the instrument in the absence of other disturbing factors. The observation of blood pressure in surgical cases does not at present seem to the authors a routine necessity.

The Danger of Wound Infection as a Result of Speaking at Surgical Operations.—By DR. MENDES DE LEON (*Archiv. fuer Klinische Chirurgie*, Bd. 72, Heft. 4).—It is a well known fact that in speaking we throw out a considerable amount of saliva in finely divided particles, and nowhere do germs grow more luxuriantly than in the mouth, and it is a matter of actual experience that the injection of saliva into the peritoneum of a mouse resulted in the death of the animal as often as the experiment was performed by Miller. It may be mentioned that this saliva was taken from one hundred and eleven healthy people. Our author found out from various surgeons how many words they were accustomed to utter at the average surgical operation, and then spoke the same number of words with sterilized petri dishes before his mouth. In no instance did he fail to cultivate numerous colonies of all sorts of pus germs. Strange to say, the results were not just the same when he simply infected the dishes with saliva alone as when he spoke against the dishes. In order to prove that his germs were virulent, he injected them into sixty-one different animals, and was able in practically every instance to demonstrate inflammatory lesions of one sort or another. A number of experiments were made to disinfect the mouth, but this was found absolutely impossible, so the author suggests that a cotton pack be worn as a sort of mask, with which he was able to prevent any infection of the petri dishes.

Tubercular Disease of the Breast.—By MR. KAKAMURA (*The Sei-I-Kwai Medical Journal*, February 29, 1904).—In Japan this disease was first recognized at the University of Tokyo. In the majority of cases the women were of middle age, and strumous subjects are essentially predisposed to it. In four out of five cases the lesion in the breast was a primary one. The diagnosis is often practically impossible clinically, but in others, by the appearance of fistulae, together with animal experimentation and bacteriological tests, the diagnosis can be made. The prognosis is very good in a primary lesion. The treatment is always surgical.

Operation in Spinal-Cord Injuries.—By SAMUEL J. MIXTER, M. D., and HENRY MELVILLE CHASE (*Annals of Surgery*, April, 1904).—After an encouraging experience in a number of cases the authors have come to the conclusion that it is warranted to operate upon spinal injuries in which we have all the symptoms which have up to date influenced authorities to discountenance operation absolutely. They believe from what they have seen that an early operation may prevent the extension of changes in the cord due to pressure, and, even though the given case might seem hopelessly injured at first, he would operate in every instance in which the physical condition of the patient will permit of it. The reports of their cases read almost like the accomplishment of something hitherto regarded as impossible, and it would certainly seem that they are right in thinking that every hope should be held out to these patients, who are otherwise certainly lost.

Clinical and Pathological Experiences in Surgery of the Stomach.—By DR. DARIO MARAGLIANO (*Beitrage zur Klinischen Chirurgie*, Band xli, Heft 3).—This report impresses the results which have been accomplished by Prof. Krause since he went to Berlin, in 1900. The author recommends that the abdomen be left open after resection of the stomach in certain cases in order that the transverse colon may be investigated a day or two later and treated rationally in case gangrene has ensued. Radical treatment is ineffectual chiefly in case the stomach incision is found not to have been made in perfectly healthy tissue. In two cases Krause did a gastroenterostomy, and a few weeks later resected with success. Three of his twelve resections died immediately from the effects of the operation, while four are still in perfect health. His immediate mortality in gastroenterostomy for cancer was forty-eight, and, in the reviewer's mind, there seems a very suspicious connection between this statement and the fact that the author under no circumstances makes use of any mechanical contrivance, but as a routine practice does a suture operation with the addition of an enteroenterostomy. These results are quite different from those of numerous American surgeons, who make use of every mechanical aid and operate in the shortest possible time upon these already exhausted patients.

Encroachment Upon the Trachea and Esophagus of Cancerous Goiter.—By C. VIANNAY, L. Pinatelle (*Revue de Chirurgie*, xxix, 1904, iii).—This is said to be an extremely rare complication of cancer of the thyroid, and consequently the author's report of a case is of undoubted value. There was almost simultaneous perforation of the two viscera mentioned, with ulceration of the tumor and secondary tuberculosis of the lungs, which completed the sad picture. The onset of the disease was acute and the course extremely rapid. It is an interesting fact, by the way, that carcinoma of the thyroid is far more frequent in those already the subject of goiter, and it occurs, as might be expected, in the countries where goitres abound. The dysphagia in this case was very great, and difficulty in respiration was also early manifested. Such complications of a cancerous thyroid have been noted only four times in one hundred and seventy-three cases of cancer of the thyroid. In one of these instances a fistula was established between the trachea and eso-

phagus. The article is completed by a record of the cases which have appeared in literature up to date.

Penetrating and Perforation Gunshot and Stab Wounds of the Abdomen, with Report of Cases.—By JOHN YOUNG BROWN, M. D. (*New York Medical Journal* and *Philadelphia Medical Journal*, April 16, 1904).—The matter of first importance mentioned by the author is that all penetrating abdominal injuries should be subjected to an exploratory laparotomy. He is one of those who have rarely called attention to the fact that it is not always easy to demonstrate a penetration of the peritoneum, even after the surgeon has cut down to that membrane. In one case he found both a penetration and a perforation, although everything indicated that neither lesion was present. In three months he had at the city hospital eight exploratory laparotomies for gunshot wounds without a death. Another list contains five cases in which the liver was injured, and it is worthy of note that but one of them died. In all, twenty-three cases are reported, with nineteen recoveries.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Treatment of Septicemia by Means of Enemata of Argentum Colloidale Crede.—LOEBEL (*Zentralbl. f. d. ges. Therapie*, 1904, No. 3).—During the past two years numerous attempts have been made, in the clinic of Prof. Schlesinger at Vienna, to treat sepsis, erysipelas, puerperal processes and the like by means of ungt. Crede and by means of intravenous injections of colloid silver. Neither of these methods has, however, produced as good results as the administration per rectum of the colloid silver (collargol). In three cases of severe sepsis, one of puerperal infection and one of thrombophlebitis following typhoid, enemata of collargol were followed by improvement so prompt that the good effect must be ascribed to the action of the drug. In four cases the treatment was discontinued, partly on account of negative results, partly on account of the onset of other complications (pneumonia, septic diarrhea). The administration of collargol enemata in six cases of phthisis with a septic temperature, gave negative results.

The collargol was given twice daily, in doses of 0.15 gram—0.30 gram, in 75 c.c. distilled water, for a week. Its administration should always be preceded by a cleansing enema. The ease and safety of this method of using collargol warrant its widespread trial.

The Treatment of Gastric Ulcer.—LENHARTZ (*Therap. Monatshefte*, 1904, No. 3); WAGNER (*Muench. med. Wochenschrift*, 1904, Nos. 1 and 2).—Both writers criticise unfavorably the treatment of gastric ulcer by means of rectal alimentation according to Leube and Fleiner, and prefer

the method of Lenhartz, in which proteid food is given at once, even when there has been severe bleeding. This treatment first suggested itself to Lenhartz through the good results obtained in the gastric disturbances of chlorosis by means of a plentiful proteid diet. The hyperacidity usual in these cases disappeared sooner and the nutrition improved more quickly than when they were put on a milk diet. It seemed rational that cases of gastric ulcer, which also are usually characterized by hyperacidity and anemia, should do well under the same regimen; and, as a matter of fact, he has had strikingly good results, his patients being able to return to work much sooner than with the usual treatment. He has never seen unfavorable complications follow his method; certainly renewed hemorrhages have not been more frequent in his cases than in those treated otherwise.

He begins by giving the patient, on the day following the hematemesis, 300 grams ice-cold milk and 1—3 raw eggs well beaten up. During the first week this daily allowance is increased by 100 grams of milk and one egg every day. He never gives more than one liter of milk for fear of stretching the stomach. Beginning with the sixth day, raw scraped beef is given, from 35 grams upwards; after the second week, well-boiled rice, farina and toast are permitted; after 3—4 weeks, a mixed diet. As regards drugs, he orders 2.0 grams bismuth subnitrate three times daily during the first ten days, in suspension; later this dose is cut in half, and iron is ordered in the form of Bland's pills, pulverized if necessary.

Fucol, a Substitute for Cod-Liver Oil.—J. LOWENHEIM (*Therap. Monatshefte*, 1904, No. 3).—The disagreeable taste of cod-liver oil as well as its high price, which tempts to counterfeiting, have stimulated the search for a cheap and palatable substitute. All attempts at impregnating oils with iodine directly have failed to produce a compound equivalent to cod-liver oil. Toellner of Bremen, however, seems to have solved the problem. Certain sea-weeds, rich in iodine, are dried, pulverized and extracted with vegetable oils. There results a clear, pale yellow, oily liquid, with a very delicate taste, called by its inventor "fucol," from *fucus*, sea-weed. Chemically, it seems to resemble cod-liver oil closely, and clinically too seems to have a similar action. Bruecke, Hofmann, v. Mehring, Senator as well as the writer speak well of it. Its price is considerably less than that of good cod-liver oil.

Treatment of Lobar Pneumonia.—W. GILMAN THOMPSON (*Medical Record*, March 12, 1904); H. ALTSHUL (*Medical Record*, March 26, 1904).—Dr. Thompson is rather skeptical as to the value of drugs in pneumonia and prefers to trust to hygienic and dietetic measures. He lays particular stress upon the following points:

1. The importance of not crowding an overtaxed heart with too much stimulation, and especially of basing the selection of the proper variety of cardiac stimulant upon the existing balance between the conditions of vascular tone and the effort the heart is already making.
2. The uselessness of the so-called specifics for pneumonia, and, as a rule, of expectorants.
3. The importance of the prevention of indigestion, and particularly of tympanites.

4. The great value of hypodermoclysis in certain cases.

5. The uselessness of topical applications, excepting for the purpose of relieving pleuritic pain.

6. The necessity of prescribing proper intervals of rest in which the patient is free from incessant efforts at medication.

Dr. Altshul, on the other hand, believes he has found a drug that is a specific in lobar pneumonia. Ordinarily this disease has a mortality of from 20 to 40 per cent.; in over 250 cases treated according to the writer's method the mortality was less than one per cent., although many of the patients lived under the most unfavorable conditions, suffered from chronic endocarditis, chronic nephritis, phthisis, etc. His treatment in brief is as follows:

On the establishment of a diagnosis the patient immediately receives an initial dose of at least ten to fifteen grains of the iodide of potassium, which dose is increased by five or ten grains, according to the severity of the case, every two or three hours, day and night, and this is continued throughout the whole course of the disease, until defervescence is established. The iodide is best prescribed in a 50 per cent. solution, and is administered in milk, the combination of medication with nourishment necessitating less frequent disturbance of the patient. In this manner he has, in a large number of cases, given from 1,000 to 1,500 grains per day; in one case as high as 1,800 grains. Dr. H. T. Prentiss, of Holyoke, Mass., reported to him a case in which he gave 3,000 grains daily for about four days; and another patient, a child, to whom he gave 2,100 grains daily for two days. In neither case was there any sign of intolerance, and both recovered from the disease.

The Oats Cure in Severe Cases of Diabetes Mellitus.—C. VON NOORDEN (*Berliner Klin. Wochenschr.*, 1903, No. 36; *The Postgraduate*, April, 1904).—At the last meeting of naturalists at Carlsbad, von Noorden submitted a short report showing the good results occasionally obtained by putting diabetic patients on an oatmeal diet. A further experience with over a hundred patients has served to confirm his previous conclusions. The oatmeal is boiled in water for a considerable length of time with the addition of a little salt. While boiling, butter and some vegetable albumen, or, after cooling off, beaten white of an egg, is added. The usual daily dose at the beginning of treatment is 250 gram oats, 100 gram albumen, 300 gram butter. The broth thus prepared is given every two hours. In addition, a little brandy or wine and a little strong black coffee are allowed.

After a longer or shorter course of this regimen, diabetic patients whose glycosuria had not ceased, even when they were put on a strict carbohydrate-free diet, soon stopped excreting sugar. The return to a mixed diet must be made cautiously and gradually, as acetoneuria is apt to ensue. While this treatment is not to be promiscuously applied, and while some patients seem to be injured thereby, others are strikingly benefited, their tolerance for carbohydrates being markedly and permanently increased. Von Noorden confesses his inability as yet to furnish any criterion for distinguishing between those diabetics who will be benefited and those who will be harmed by the oats cure. On the whole, however, it is the severe cases that do best under it.

Selected Prescriptions.

Chlorosis and Amenorrhœa:

℞ Acidi arseniosi gr. j
 Ferri sulph. exsiccato 3ss
 Pulv. piperis nigri.
 Pilulæ aloe et myrrhæ aa 3i
 M. et ft. pil. No. xl.
 Sig: One pill t. i. d. after meals. (Fothergill, *Medical Record*.)

Acute Bronchitis—as an expectorant:

℞ Syr. scillæ 3i
 Ext. lobeliæ fl 3i
 Tinc. opii 3ijss
 Ext. ipecac fl gtt. xv
 Syr. pruni. virg 3jss
 Syr. Piceis liq q. s. ad. 3iv
 M. S. One teaspoonful in water four times a day. (*Jl. Am. Med. Ass.*)

Bronchitis in the Aged:

℞ Pot. iodidi 3ijss
 Syr. piceis liq 3iv
 Syr. pulv. doveri 3i
 Syr. tolutani q. s. ad. 3iv
 (I. N. Danforth.)

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Therapeutic Experiments with Aniline Stains in Trypanosomiasis.—P. EHRLICH and K. SHIGA (*Berlin Klin. Woch.*, Nos. 13 and 14, 1904).—The immense heuristic possibilities of Ehrlich's side-chain theory have again shown their importance in this latest publication. Our knowledge that the malarial parasites can be destroyed, or inhibited in their development, by quinine, suggests the search for pharmacological agents to aid against the organisms of protozoic diseases. Ehrlich selected of the latter the mal de caderas, a trypanosoma infection of horses in South America. For certain reasons members of the benzopurpurin series were used, and finally one substance was prepared—that under the name of "trypanred" was used for the experiment. The trypanosoma is very infectious for mice, so these animals were submitted to the tests. Ordinarily a mouse dies within four to five days after this trypanosoma infection. Injections of trypanosoma blood and of minute quantities of the staining material, simultaneously made, prevented the infection; the injection of the latter one to three days after the first (that is, one day before the animals otherwise would have died), preserved life. By special experiments the minimum dose to bring about this effect was determined. The question now arose, whether this cure was definite in all animals. A number of them remained well for a long period; while others, free from infection for a month and again infected, succumbed to the disease. The latter, however, could be easily dealt with by the

injection of trypanred. Next, the action of the substance when injected in rats was studied. Here, too, a protection could be established, but the animals invariably died later from relapses. Although the results are not satisfactory, they show the way in which a more certain effect may be obtained—perhaps by the substitution of more suitable compounds.

Theoretically the principal question was, in which way did the trypanred exert its effect? The idea that it directly killed the protozoa had to be abandoned, since, *in vitro*, no destruction of the parasites could be observed even in a high concentration of the substance. Only in the animal body are the trypanosomata destroyed under its influence. The animals injected with trypanred show a red discoloration of the skin for weeks, that only gradually disappears. Mice were, therefore, infected with trypanosoma-blood one to three days after the injection of the stain. It was seen that the protection only held till the second day, and that on the fourth day it was minimal. From this it follows that, since at this time the stain is firmly fixed to the tissues, it can only aid as a protector as long as this firm fixation has not yet taken place. The phenomenon can be explained by the assumption that under the influence of trypanred, anti-parasitic substances of transitory duration are developed. The injected material causes reactions in the animal body leading to the formation of these anti-bodies, that are no longer formed after it is firmly combined with the tissue elements.

If mice are treated with trypanred on the fourth day after the infection the immunity produced is greater, as they do not acutely succumb if they are again infected on the first to the third day after the injection of the stain. Even after twenty-one days a relative immunity was found to be present. There is, therefore, no doubt about the presence of an immunity, which must be an active immunity. Until the immune bodies present are eliminated, freshly-injected parasites cannot develop, nor can they multiply until the time of the relapse—that is, the time of the disappearance of the immune bodies.

These investigations are apt to throw a clear light on the relapses seen in malaria, syphilis and other diseases. Here, too, most likely, the organism harbors latent parasites that, after the disappearance of the protective substances, will again become active. They also have established that by the action of pharmacologic agents an active immunity may be produced, so that for the production of the latter perhaps better chances can be established than by the use of specific sera. Some of the receptors of the parasitic organisms in this latter way always are eliminated, and cannot take part in the active protection of anti-bodies.

Tardy Abscesses of the Liver After Amebic Dysentery—P. K. PEL (*Berlin Klin. Woch.*, 1904, No. 14).—Pel reports three cases of liver abscesses occurring eleven, fifteen and twenty years after an attack of amebic dysentery. The practical importance of these observations is apparent, but the assertion made on this basis that the existence of abscesses can last the period of twenty years without causing symptoms or elevation of temperature, must be considered with great caution. The necrotic liquefied areas in the liver following an amebic dysentery may be called abscesses, if we mean by this simply the liquefaction in a

disintegrative process of some portion of an organism or a tissue. But to call the amebic liver necroses abscesses, identifying them with pus collections, the consequences of an acute or chronic pyogenic infection, simply shows that the pathologic changes of amebic dysentery are left altogether out of consideration. As in other protozoic infections, this dysentery does not lead to a cellular exudation—to pus formation. The pus found in the stools of dysenteries of this kind is always due to secondary infection, as was first shown by Flexner, who insisted on this remarkable peculiarity of the pathological changes. As a fact, it is well known that in the pus of amebic abscesses pus corpuscles are never found, as little as any bacteria. The pus of these abscesses is nothing but the liquefied necrotic liver substance, first containing the products of the parenchymatous degeneration, and later those of the interstitial tissue. They are not abscesses in the pathologic sense of the word, and cannot be adduced as evidence for phenomena in these real abscesses. They are phenomenon *sui generis*, and have nothing to do with pus collections caused by pyogenic bacteria or other leucocyte attracting material. The contents of amebic liver abscesses are not pus, but necrotized and liquefied liver substance. It is interesting to know that they can extend their period of existence to twenty years, but no conclusion must be drawn to the products of a pyogenic infection and the secondary collection of pus.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

The Scientific Principles of Conservative Operations in Cases of Uterine Fibromyomatosis.—G. WINTER (*Zeitschr. fuer Gbtsch. und Gynaek.*, Band li.)—The principles underlying conservative tendencies in such operations are: They preserve menstruation and the possibility of pregnancy: they prevent the disagreeable symptoms of artificial menopause.

Conservative operations do not remove the possibility of recurrence, do not offer any guarantee for a complete relief of the patient of all her symptoms, and show, whether performed *per abdomen* or *per vaginam*, less favorable immediate results than the radical operations.

On the basis of this consideration Winter advances the following fundamental rules for conservative myomotomy:

Conservative operations are always indicated for subserous myomas with a thin pedicle, if the uterus does not contain any other tumors and for submucous myomas, if they are in the process of expulsion. In such instances the size of the tumor is of little importance as long as the uterine body is freely movable and can be well pressed down into the pelvic cavity.

Open for a choice between conservative and radical operation are cases of subserous myomas with a broad base: interstitial myomas in symmetrically enlarged uteri: large submucous myomas if the cervix is closed and multiple myomas of varying size.

Winter defines his position in this question as follows: In general it may be said that we ought to be radical. We are permitted to perform a conservative operation if the patient desires the preservation of her menstruation and her faculty of bearing children.

During pregnancy conservative operations have to be given preference.

The Relations Between Myoma and Cardiac Disturbances.—G. FLECK (*Archiv fuer Gyn.*, vol. 71, 1904)—In three hundred and twenty-five cases of uterine myoma pathologic alterations of the cardiac functions were noticed one hundred and thirty-three times, *i. e.*, in 40.9 per cent. of all cases. It may be mentioned here, that this figure includes all even slight anomalies. In the author's opinion, however, this figure is still too low. He inclines to the belief that the diseased condition of both the uterus and the heart may be due to a common cause, probably to an anomaly in general metabolism. The relative frequency of a deposit and the constancy with which macroscopic anatomical changes are found in the ovaries would seem to favor such a theory.

Prophylaxis Against Postoperative Cystitis.—K. BAISCH (*Centralbl. fuer Gynaek.*, 1904, No. 12).—Postoperative cystitis is not only a very annoying but even dangerous complication during convalescence after certain gynecological operations. In several cases an ascending pyelitis has caused the death of patients after the radical cancer operation of Wertheim. Baisch claims splendid results in preventing such a cystitis by following every catheterization with a thorough irrigation of the bladder with an antiseptic solution. It is very important to continue this procedure up to the time when the patient is able to spontaneously empty the bladder completely.

The Influence of Nursing Upon the Frequency of Carcinoma of the Mammæ.—L. LEHMAN (*Inaug. Dissers. rev. Centralbl. fuer Gyn.*, 1904, No. ii.)—In this very interesting essay the author has compiled all the accessible statistics pertaining both to the frequency of carcinoma of the breast and the percentage of mothers nursing their children. These statistics, referring mainly to the conditions in Germany, include, however, a number of other European and foreign countries. A comparison of these statistics demonstrates the surprising fact that all those countries in which the nursing of the babies by their mothers is notoriously more in vogue show a smaller percentage of mammary cancer. It would seem that hypoplasia of the breast, due to a failure of proper use continued during generation, forms a predisposing factor in the development of a malignant growth.

The Passage Into the General Maternal Circulation of Alcohol Which Has Been Introduced Into the Liquor Amnii.—M. NICLOUX (*Bull. de la Soc. d'Obs. de Paris*, 1903, No. 7.)—On a previous occasion the writer has demonstrated that alcohol introduced into the stomach of a pregnant animal soon appears in the amniotic fluid. In this paper Nicloux records experiments made in the reverse way. He injected alcohol into the liquor amnii of pregnant guinea-pigs and bitches and demonstrated its rapid transition into the maternal blood. The same phenomenon was

proved for sulphate of strychna by Bar, for iodide of potassium by Toerngren.

The Blood Examination in Abdominal and Pelvic Diseases.—E. SCOTT-CARMICHAEL (*Jour. of Obst. of Brit. Emp.*, February, 1904.)—During the last two years the value of the blood examination in abdominal inflammations has received much attention by surgeons. The writer gives a review of all the more important publications on the subject and concludes his article with interesting deductions.

The red blood corpuscles and the percentage of hemoglobin afford little help in diagnosis, although in acute toxemias the amount of both is very considerably diminished. Leucocytosis is, as a symptom, undoubtedly more reliable than temperature in the diagnosis of pus, especially in chronic cases. The tendency of looking upon a certain definite number of leucocytes as indicative of pus must be avoided. Speaking generally the degree of leucocytosis in purulent affections of the female genital organs is less than in such conditions as liver abscess or suppurative appendicitis. The more chronic the suppuration the less the degree of leucocytosis.

In gynecology a count of the leucocytes forms a most valuable aid in the differential diagnosis of tubal conditions. In any gynecological swelling of a doubtful character the leucocyte count should not be omitted. The leucocyte estimate should be made regularly at frequent and regular intervals. For the clinician the quantitative count is easily performed, and is alone sufficient in the majority of cases. The qualitative count is required in a minority of cases, but its value is much diminished by the fact that much experience is required for its enumeration, which cannot easily be gained by the ordinary clinician. In the hands of laboratory experts it is probably of more value than a quantitative count for diagnostic purposes. The same may be said of the iodophile reaction of leucocytes.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

The Relation of Serous-Pleurisy and Tuberculosis in Childhood.—NATHAN (*Arch. fuer Kinderheilk.*, Vol. 38, 1904, p. 183) has carefully analyzed the cases of serous pleurisy of the Emperor and Empress Frederick Children's Hospital in Berlin with reference to this question.

Baginsky has taken the stand that, in childhood, serous pleurisy is not in nearly as close relation to tuberculosis as is generally supposed.

After a critical analysis of existing literature of the subject, the author details the results of his study of seventy-three carefully studied cases of idiopathic pleurisy in children.

The following methods of determination were used:

1. Determination of coexistent tubercular lesions of other organs.
2. Demonstration of tubercle bacilli in the sputum.
3. Demonstration of tubercle bacilli in the fluid exudate.
4. The results of cultural examination.
5. Animal experiment.
6. Clinical observation of the patients over great lengths of time after the subsidence of the pleurisy itself.

Ad. 1. Only two of the cases showed tubercular foci elsewhere in the body. (One of these cases had an unmistakable tubercular peritonitis coexistent with the pleurisy. Nevertheless, an animal inoculated with this pleural fluid was perfectly well six months after the experiment, and had gained in weight. It is thus probable that even in this case the pleurisy itself was not tubercular. The patient, seen two and one-half years later, was perfectly well.)

Ad. 2. Sputum was obtained in only three cases. No tubercle bacilli found in any case.

Ad. 3 and 4. Microscopic and cultural examination of the fluid were both negative in all cases in which these methods were tried.

Ad. 5. Animal experiment was carried out in ten cases. In only one of these (in which the family history was positive) did the animal show tubercular lesions. The others were all negative.

Ad. 6. Thirty-seven of the cases have been followed up to obtain the later developments. The average length of time between the pleurisy and the later examination was four and three-tenth years. These patients were very carefully examined, and only three of them gave any evidence of tubercular process.

As a result of his study, the author comes to the conclusion that the view of the question taken by Baginsky is fully justified.

The Best Anesthetic for Children.—BENNETT (*Archives of Pediatrics*, April, 1904) commenting on the fact that deaths from anesthetics are relatively more frequent in children than in adults, discusses the choice of anesthetics during childhood.

The widespread belief that chloroform is the best anesthetic for children, less dangerous in them than in adults, is, according to Bennett, "a grave error, without foundation." Chloroform is, in fact, a particularly dangerous anesthetic for children. Anesthesia in children must often be induced during crying and struggling; respiration is thus necessarily irregular. Chloroform can, therefore, not be administered in the gradual, smooth manner so necessary for safety. Sudden overdosage is exceedingly common at this time, because, in order to quiet the struggling child, the anesthetic is given too freely and too fast. If children become suddenly quiet during the induction of chloroform anesthesia, the administration should be suspended to note the effect of the amount already given. Concentrated vapor must be avoided, and the amount used be kept as small as possible. In the presence of acute bronchitis, pneumonia, nephritis, chloroform is, however, to be preferred to ether.

The belief that ether is an unsuitable anesthetic for children is, according to Bennett, also quite unfounded. If it be given diluted, at first, and not too quickly, its unpleasant effects may be almost com-

pletely abrogated. Circulatory depression, commonly caused by chloroform, practically never results from ether. The administration of ether may be advantageously preceded by that of nitrous oxide. But the prolonged administration of nitrous oxide in children is not to be recommended, because they present asphyxial symptoms early, often to a marked, even dangerous, degree. Nitrous oxide mixed with air or oxygen yields better results, and is less dangerous than pure gas.

Ethyl chloride and ethyl bromide have not been used sufficiently as yet to have the question of their relative safety determined.

Diphtheritic Arthritis.—BARBIER (*Rev. Mens. des Mat. de l'Enf.*, April, 1904), at a recent meeting of the Paris Pediatric Society, reported a case of apparently mild diphtheria, treated with antitoxin, in which, on the fourteenth day, there was severe generalized arthralgia, with great infiltration of the affected joints. Puncture revealed sterile, sero-sanguinolent fluid. The child died under the symptoms of diphtheritic toxæmia, and at the post-mortem a cardiac thrombosis was found. Culture from the cut surface of the lung showed Klebs-Loeffler bacilli in pure culture.

In the ensuing discussion, Guinon said that these diphtheritic joint involvements had become much less frequent since the introduction of antitoxin. This applies to scarlet fever also, where preventive doses of antitoxin are given. Comby held that this was also true for measles.

Infantile Scurvy in France.—In view of the widespread use of sterilized milk in France in the artificial feeding of infants, this subject is of peculiar interest. It is generally conceded that prolonged sterilization of milk is an important factor in the production of this condition. Rochon (*These de Paris*, 1903) has collected the published cases of scurvy in France. It appears that the number of cases is on the increase of late. Boys are affected somewhat more often than girls. The symptoms appear between the ages of six months and two years. Breast feeding and feeding of *raw* milk were not causal factors in any of the forty-three cases collected. On the other hand, the influence of artificial foods and sterilized milk is clearly established. Of the forty-three cases cited, twenty-five had been fed on sterilized milk. Prolonged sterilization certainly diminishes the soluble phosphates and the citric acid, and destroys the ferments of the milk.

The principal symptoms are: Anæmia, pain and weakness of the extremities, lesions of the gums and sub-periosteal hæmatomata. In about a fourth of the cases the symptoms are limited to pseudo-paralysis, with pain. Scurvy may coincide with rickets (in sixteen of the forty-three cases), although it is not a form of the latter. Prophylaxis would consist, *inter alios*, in pasteurizing milk instead of sterilizing it.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

Congenital Dislocation of the Hip.—*The American Journal of Orthopedic Surgery* for February which has made its appearance in the last two weeks contains five articles on congenital hip dislocation. These articles are the papers which were read before the American Orthopedic Association at its meeting in Washington, D. C., last May. The articles and the discussion which follows are of especial interest as therein is presented a compendium of the best orthopedic opinion in America on the question of congenital hip dislocation.

The first paper is by E. H. Bradford of Boston. It is entitled, "The Resistance of Tissues as a Factor in the Manual Reduction of Congenital Hip Dislocation." The writer states that he has been led to give up the opinion that the chief obstacle to reduction is found in capsular resistance, an opinion which he formerly held, and states that he is now convinced that the resistance is muscular. Assisted by Dr. L. T. Wilson he made several experiments on a cadaver in the laboratory of the Harvard Medical School; the precision of these experiments would seem to prove beyond doubt the writer's position. Of prime importance is the resistance offered by the adductor magnus. In speaking of treatment the writer states that whereas in a young child nothing could be more simple than the method of Lorenz, in older and more resistant cases it brings the operator face to face with the danger of either using too great force, and causing an unnecessary injury, or of using too little force, and not accomplishing a reduction. It is essential, therefore, that a mechanical force be employed which is directly under the control of the operator. The apparatus is then briefly described which was devised by Mr. Bartlett of Boston. This device firmly fixes the pelvis, traction is made on the limb by a windlass, the operator exerting force directly on the trochanter by means of a long lever is able to gauge the force to the required amount.

Dr. Bradford summarizes his paper as follows:

- (1) The resistance offered by the capsule is not more important than that offered by the muscles.
- (2) The chief resistance to forcible abduction is from the strong tendon of the adductor magnus.
- (3) The resistance to pulling down the head comes from the hamstring group and the long tendon of the adductor magnus and the ilio-tibial band.
- (4) These resistant tissues can be overcome by small incisions at a distance from the hip.
- (5) In lighter cases manual manipulation is sufficient.
- (6) In resistant cases mechanical force which pulls upon and abducts the limb, arraigned so as to directly act upon the capsule, is of assistance.
- (7) Where the tendon of the adductor magnus is so strong that an immoderate amount of force is needed in stretching, it would seem ad-

visible to divide the chief resisting tissues rather than to incur the danger of severely bruising the tissues by the force used. The division of the tendon can be done either before the operation of forcible correction or at the same time.

The second paper is by H. Augustus Wilson and J. Torrence Rugh of Philadelphia and contains a complete autopsy report by W. M. L. Coplin.

It is entitled, "Congenital Dislocation of the Hip: Report of a Bloodless Reposition, Followed by Death, With an Analysis of Twenty-three Cases in Process of Treatment." The writers relate the demonstration of Lorenz in Philadelphia and a detailed account of a case is given where convulsions followed the manipulation, Lorenz is quoted as saying that never before in his experience had this occurred, he attributed the convulsions to shock and trauma. In describing the cases operated upon by themselves the writers state: "The details as practiced by Lorenz have been most critically carried out. It was deemed unwise to attempt the least departure from the methods which Lorenz with his vast experience and consummate skill had demonstrated before a most critical audience of 700 medical men." The case which resulted fatally is the central point of interest in this paper. The patient, a girl of seven, delicate looking and rather under weight, had double dislocation. She was operated upon in the routine manner of Lorenz but the operators noted several distinct sounds of cracking or tearing during the manipulation, the reposition did not seem entirely satisfactory but the child was put in plaster in the "frog position" and left the table in fairly good condition. She did not rally well, however, and eight hours after operation showed marked signs of shock, she did not respond to stimulation but died about twenty hours after operation. The pathological report mentions an intracapsular fracture of the neck of the femur and two fractures of the ischium on the right side. Attention is called to the fact that the manipulations in this case were not of a particularly violent character, but were less so than those employed by Lorenz.

The third paper is by Gwilym G. Davis of Philadelphia, and is entitled, "The Forcible Reposition of Congenital Luxation of the Hip."

The writer has for his purpose the strong advocacy of conservative measures in the treatment of the condition. He criticises the method of Lorenz with considerable spleen, he refers to Paci as originating the forcible method and says that what he attempted to do by comparatively mild and more or less gradual methods Lorenz seeks to accomplish by violence. "When we consider that the deformity is not a fatal one, and that in some cases it is not even a seriously disabling one, means of treatment which subject the patients to serious risks of injury or loss of life are not to be recommended." He holds that what violent traction will accomplish, confinement in bed with weight traction will also do and this also without risk. The loss of time is insignificant compared to the dangers of violence.

The fourth paper is by George B. Packard of Denver, and is entitled "Cases of Congenital Dislocation of the Hip."

The writer simply reports the cases operated upon by Lorenz in Denver, six in all. Two replacements, two anterior displacements, and two that have passed out of the writer's knowledge.

The fifth paper is by Henry Ling Taylor of New York, and is entitled,

“Peripheral Palsies Following Manual Replacement of the Congenitally Dislocated Hip.”

The slowness with which some of the patients operated upon in New York learned to walk attracted the writer's attention, on examination he found that in a series of less than fifty cases there were nine cases of quadriceps palsy, one of peroneus, and one of sciatic palsy, of the quadriceps cases three were double, making twelve limbs affected. There were two cases of foot drop where the quadriceps was not involved. This is more frequent than reported by Lorenz in his monograph of 1900 where there were eight cases out of four hundred replacements. The writer is of the opinion that quadriceps paralysis might be easily overlooked. He concludes that where this complication is so frequent and where more serious accidents are liable, manipulations should be deliberate and careful and where serious obstacles exist the attempt to reduce the dislocation by manual force alone should be abandoned.

Discussion.—Dr. Roswell Park opened the discussion saying that he was impressed with the folly of calling the Lorenz method “bloodless.” He does not consider it safe to tear tissues and break bones indiscriminately.

Dr. V. P. Gibney said that he could not concur in the opinion that it was always a simple operation in a child of four years. He regards the operation as always attended by danger.

Dr. N. M. Shaffer said that he wished to express his appreciation of Lorenz's efforts in this country. He felt that orthopedic surgery had been immensely benefitted thereby.

Dr. John Ridlon said that he believed the Lorenz procedure to be the best. He had notes on twenty-one cases operated upon by Lorenz in Chicago, in four of these he failed to replace the hip, in one case the neck and in another the shaft of the femur was broken. He promised a full report at a later date.

Dr. B. E. McKenzie said that he regarded it as unfortunate that Lorenz had been represented to the laity and a large part of the medical profession as a man of Herculean strength, who used this strength to operate. He found him a modest man claiming only 25 per cent. successful results for his method. He did not see him use great force when operating.

Dr. Arthur J. Gillette called attention to the fact that many of these cases did well after a time if untreated.

Dr. A. J. Steele mentioned a case that Lorenz had refused to operate upon as the child was seven years old and of unusual muscular development. After long application of traction and division of the adductors it was possible to reduce both hips.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

The Partial Passing of Neurasthenia.—DANA (*Boston Med. Surg. Journal*, No. 13, 1904).—This is a timely paper upon a subject of which much is written but very little said. Of late years there has been a tendency among neurologists to consider with great frankness the limits of the knowledge which is at their disposal on this subject and to submit their own cases to the test of this definite amount of positive data. As a result, the diagnosis of neurasthenia is being made today with a great deal of care and much less frequency than a few years ago, when this disease was used as a dumping ground for all the vague diagnoses to which the much abused term functional was given. As an illustration of this tendency, this paper of Dana's deserves careful reading. The main contention of this paper is that, inasmuch as neurasthenia is so closely related to various abnormal mental states, a certain number of cases which are diagnosed as neurasthenia on account of the presence of certain vague symptoms are really not neurasthenia at all, but are the prodromata, or the less typically pronounced stages of very definite psychoses. Among such are mentioned dementia præcox, paranoia, mania-melancholia, phrenesthenia, or the degenerative psychoses, and the exhaustion psychoses. The author sums up as follows: "It is my contention, first, that many cases of dementia præcox are in the early stages considered neurasthenics, but also that there are abortive types of dementia præcox which pass through life, or many years of it, with the dementia arrested, and are classed simply as neurasthenic. Finally, neurasthenia occurring under twenty is rarely neurasthenia. It is dementia præcox, or a recurrent melancholia, or the exhaustion of a phrenasthenia, and it is rarely paranoia. Neurasthenia, occurring at this early period with a bad family history, including family alcoholism, should make one very suspicious of a serious malady."

Post-Diphtheritic Chronic Bulbar Paralysis and Its Distinction from Myasthenia.—HARRIS (*Brain* Winter, 1903).—Chronic bulbar paralysis, occurring as a sequel of diphtheria, is a rare event, and only four instances are found in the literature. In both cases here described there developed, after an attack of sore throat, paralysis of the palate, followed soon afterward by weakness of the tongue and lip, and inability to close the eyes. In each case there was profound, lasting paralysis of the sphincters of the eyes and lips, with complete escape of the remaining facial muscles with the exception of the frontalis, which appeared to be slightly weak in both. In one case the symptoms lasted six years, followed by complete recovery. In the other, a more severe case, with more marked atrophy of tongue and facial muscles, the symptoms remain without improvement after the lapse of four years. It seems clear, then, that very occasionally permanent palsy may follow results follow-

ing diphtheritic paralysis. That when such permanent palsy remains, it is usually of muscles supplied by one or more of the bulbar nuclei. That a distinct type of bulbar paralysis may ensue closely resembling in its distribution that which is familiar in myasthenia or asthenic bulbar palsy, but which is to be distinguished from the latter by the non-variability of the symptoms, the absence of the myasthenic reaction, the absence of ptosis or weakness of the jaw muscles, or of the neck or limbs. It is further distinguished by the absence of the attacks of dyspnea so characteristic of many cases of myasthenia, and by the presence of muscular atrophy and the reaction of degeneration.

Opthalmic Migraine.—KOLLARTIS (*Deutsche Zeitschrift fuer Nervenheilkunde*, Bd., 26, 1904).—The exact meaning of this clinical term has been a subject of much dispute. In a certain number of cases the attacks of pain are accompanied by paralysis of the ocular muscles which has been called by Mobius periodical ocular motor paralysis. The subject is touched upon in this paper by a clinical report, the main features of which are as follows: A seventeen-year-old girl with no neuropathic heredity has never been able to see well out of the right eye. At the age of seven she had attacks of hemicrania, following which there was paralysis of the ocular motor and hyperesthesia in the right trigeminus, later paresis and then amaurosis in the right eye. The author believes that the paralysis in migraine is to be interpreted as a complication and as a result of the attacks of migraine. It is explained in this way. The nervous system is poorly developed from this point of view and reacts to the repeated attacks of pain by a loss in functional power which afterwards develops into the paresis or paralysis of the muscles supplied by the ocular motor.

The Condition of the Reflexes in Cases of Brain Tumors.—REH (*Monatschrift fuer Psychiatrie und Neurologie*, No. 3, 1904).—A study of 100 cases of brain tumor found in the literature of the passed ten years. Only such cases were studied in which there were post-mortem reports. Especial attention was given to the question of degeneration of the posterior columns as the absence of the patellar reflex has been explained in this way. The conclusions are as follows: 1. Degeneration of the posterior columns was found in 65 per cent. of the cases. 2. The degeneration was of different degrees of severity, more marked in the cervical than in the lumbar region. 3. The posterior roots are much less degenerated than the posterior columns. 4. The choked disc is relatively often found, 82 per cent. 5. The patellar reflex is in the majority of the cases decreased pathologically. In the twenty-two cases 45 per cent., in a small number of cases the reverse is found. In some cases in spite of the degeneration of the posterior columns the knee-jerk is normal. The explanation of this irregularity depends upon the degree and location of the process. The unequal extent of the posterior degeneration and the degeneration of the other tracts as well as the anterior horns cannot be explained by the mechanical force that acts upon the posterior columns.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Torsion of the Spermatic Cord.—VANVERTS (*Ann. des Mal. des Org. Urin.*, March 15, 1904).—After a complete consideration in detail of the history, pathological anatomy, etiology and pathogenesis, the author says that torsion of the cord produces a congestion of the testicle and epididymis, which is very rapidly succeeded by intra-testicular and intra-epididymal hemorrhage, and which is fatal to these organs.

In about one-fourth of the cases cure occurs from spontaneous readjustment, but repeated attacks of like or increased intensity are the rule. In half of the cases the testicle is in an ectopic state, so that the diagnosis must be considered from two standpoints: (1) when the tumefaction is in the inguinal canal; (2) when it involves the scrotum only. In both we have to differentiate strangulated hernia and orchitis, but the diagnosis is much more easy in the latter locality. While there is no danger to life, the testicle is quickly lost, unless relieved from the torsion.

From an observation of forty-four reported cases it seems clear that when the testicle is ectopic, as here to untwist the cord by external manoeuvres is impossible, it is necessary to operate in the early hours to untwist the cord and lower the testicle into the scrotum, or if this descent is impossible, to do an orchidectomy. If the affection is more than twenty-four hours old, orchidectomy constitutes the sole mode of treatment. If the testicle is in the scrotum, and the condition is recent (less than twenty-four hours old), restoration by external manipulation, or operation if needed, must be done. When the torsion is of longer duration, abstain from any interference, unless the inflammatory condition calls for intervention, when orchidectomy must be done. In case of recurrent torsions we must practice, between the crises, fixation of the testicle in the scrotum.

Surgical Treatment of Nephritis.—FERGUSON (*Jour. A. M. A.*, April 16, 1904).—The author compares the condition of the kidney in acute inflammation to the phlegmonous inflammation of the hand, where free incisions promptly relieve the tension and liberates the imprisoned poisonous materials, being of opinion that in acute inflammations of the kidney the consultant should be the surgeon. To the 120 cases of decapsulation reported by Guiteras, Ferguson adds three of his own, in one of which excellent curative results followed, while the others (two) died, being operated upon only as a last resort.

He has been in the habit of not advising operation for floating kidney simply because it was dislocated, and of operating upon those only which were giving disturbance. However, of thirteen cases which he had advised against operation, all but three have later undergone operation because of painful and annoying symptoms. On the other hand, a freely movable kidney may be diseased without causing pain and tenderness, or even constant urinary changes. This experience and knowledge has

convinced the author that all cases of floating kidneys should be treated by decapsulation and fixation.

That the symptoms and signs so characteristic of nephritis in cases of floating kidney are indicative of a true nephritis, and not of a mere temporary condition, is abundantly proven by examination of pieces removed from the kidney at the time of operation. It is a matter of common clinical experience to find that nephritis does not always find expression in the urine, and the data from it are often unreliable in forming an idea of the severity of the disease. A floating kidney is a frequent cause of chronic nephritis, by constantly interfering with its vascular supply, nutrition and free excretion of urine.

From reported cases the death rate, even allowing all deaths within a week to be due to operation, is 9 per cent. It is fair to conclude that when the limitations of the operation are more clearly defined, and the operation performed earlier, that this mortality will be much reduced.

When and How Shall We Operate for Obstructing Hypertrophy of the Prostate Gland.—THORNDIKE (*Med. News*, April 23, 1904).—The author emphasizes these points:

1. That the catheter has as wide a range of usefulness as it ever had, in the palliation of obstructing prostatic hypertrophy.

2. That the various operative procedures at present at our command are to be resorted to, with the exception of certain small classes of cases referred to in these remarks, after the catheter has ceased to palliate.

3. That the time for this operative interference is at the moment when the catheter has ceased to palliate and not after months or years of further and unavailing struggle to make it do so.

4. That the more radical operation of enucleation, on the one hand, and the Bottini operation with its various modifications on the other, are not procedures of the same kind, do not have the same object in view, and are in no sense to be weighed in the balance, the one class against the other. They should rather be contrasted, the one class as radical operations aiming at a cure, and the other as efficient palliating procedures, each having its own distinct indications for its appropriate use.

Reflections on the Surgery of Prostatic Hypertrophy.—TELLURIDE (*Med. News*, April 23, 1904).—This article takes up in detail the author's technique in attacking the prostate surgically. Seventeen cases of prostatectomy are reported: four suprapubic operations (three deaths, one good result); two combined suprapubic and perineal operations (one death, one good result); eleven perineal operations (good results in all).

These deductions are given:

1. Infection is the all-important consideration in prostatitis; (2) perineal drainage of the bladder relieves the patient; (3) many of these patients will not stand extensive operative procedures or long-continued anesthesia; (4) partial removal of the prostate will be tolerated by many infected patients, and a good result obtained; (5) perineal drainage of the bladder only should be done in desperate cases and in debilitated patients in whom morcellation is necessary. In these cases the prostate should be removed at the second operation.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

On the Prophylaxis of Acute Otitis Media.—VEIS (*Monatsschrift fuer Ohrenheilkunde*, xxxviii, No. 2).—The author believes that improper cleansing of the nose plays a greater role in the production of acute otitis media than is commonly believed. He states that the majority of persons expel the accumulations in the nose by closing one nostril completely and leaving only a very small opening in the other, through which the air and secretions are expelled with great force, some of the air being as a rule driven into the ears. This usually results in no harm, but, when there is an acute rhinitis or when the secretions are loaded with pathogenic organisms as is the case in measles, scarlet fever, diphtheria, whooping-cough, etc., a severe otitis media results. The same is true when the patient is forced to sneeze with both nostrils blocked. It is therefore advisable to keep the nose as free as possible during an attack of acute rhinitis. An otitis media frequently follows a bath for the reason that when the water enters the nose it is expelled as quickly as possible and is often forced into the ear. The writer believes the normal method of cleansing the nose is to expel the secretions by "blowing the nose" directly into a handkerchief with both nostrils open, thereby avoiding the danger of forcing any infectious material into the middle ear.

Alarming Hemorrhage Following Tonsillotomy.—SMITH (*Laryngoscope*, February, 1904).—After giving a brief report of fifty-one cases of alarming hemorrhage following tonsillotomies, six of which were fatal, the author enumerates some special causes as follows:

1. Hemorrhagic diathesis, or hemophilia.
2. Fibroid tonsils, where the glandular substance is intermeshed with fibrous tissue, which prevents the arterioles from contracting when cut.
3. Age; occurring more in adults than in children. Due entirely to the increased fibrosis and greater vascular supply.
4. Sex; more frequently in males than in females.
5. Acute inflammation, when the tonsils are engorged with blood. Consensus of opinion discouraging removal when this condition exists.
6. Anemia; when there is a marked deficiency of the fibrin in the blood.
7. Malignancy; when there is increased vascular supply.
8. Abnormalities in the distribution of the vessels of the tonsil.
 - (a) Abnormal distribution of the ascending pharyngeal artery.
 - (b) Abnormally large tonsilar artery.
 - (c) Abnormal course of the internal carotid.
 - (d) Large vessel in the anterior pillar of the fauces.
 - (e) Wound of large plexus of vein at the lower border of the tonsil.
 - (f) Arterio-sclerosis.

As to the best method of controlling severe hemorrhage, the writer believes the tonsillar hemostat of Mickulicz-Stoerk to be the most effective. A report of three cases is given in which the author successfully controlled alarming hemorrhages. In one case the hemostat was left applied for forty-seven hours.

Some General Results of the Nose and Nasopharynx.—SMYTH (*British Medical Journal*, March 19, 1904) believes that those affections of the nose and nasopharynx which give rise to a purulent or mucopurulent discharge should be looked upon as possible causes of ill health. The patient may be entirely unconscious of any nasal affection and yet the source of ill health may be traced directly to it, as is the case when there is a marked purulent discharge from the accessory cavities of the nose. He has also observed that there is a marked improvement (physically) in those children in which the adenoids have been removed, even when they still continue to be mouth-breathers. This, he thinks, can be explained in that adenoid secretions have a deleterious influence on the digestion, which ceases when the adenoids are removed.

Sarcoma of the Nasal Passages—An Inductive Study Based on the Records of 150 Cases.—WATSON (*American Medicine*, April 2, 1904).—From his study of the clinical records of 150 cases of sarcoma of the nasal passages and four of his own, the author finds that sarcoma has a less malignant tendency than when occurring elsewhere. He also notes that intranasal operations give better results than extremely radical ones. Out of 48 cases in which extranasal operations were performed 39.58 per cent. were cured, while out of 64 cases, in which intranasal operations were performed, a cure was effected in 54.68 per cent. The writer states that a cure can be effected by means of intranasal surgery even when there is considerable external deformity. He reports such a case. According to Watson there is little justification in the belief that operative interference will excite the growth to greater malignancy.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Multiplicity of Syphilitic Chancres.—M. QUEYRAT (*Annales de Derm. et de Syph.*, May, 1904).—In 500 cases of recent syphilitic chancre, Queyrat found 131 cases of multiple chancres, which is a proportion of 26 out of 100, *i. e.*, about one-fourth. Of the 131 cases of multiple chancre he found two chancres 79 times; three, 27 times; four, 6 times; five, 12 times; six, twice; seven, 3 times; twelve, once and thirteen once.

On the New Form of Papular Exudative Dermatitis Provoked by Pilocarpine.—B. HALLOPEAU et Viellard (*Annales de Derm. et de Syph.*, May, 1904).—The conclusions in the resume given by the authors of this

article are, first, the prolonged use of pilocarpine introduced into the organism hypodermically or by ocular instillations sometimes produces an eruption of umbilicate papules which are localized in the sudoriparous glands. Second, this eruption elects the face or extremities. Third, the exudate may be serous, clear or purulent. Fourth, this eruption differs in its clinical characteristics from all dermatoses heretofore described. Fifth, it is accompanied by grave disturbances of the general health particularly in the invasion of the heart. Sixth, apyretic. Seventh, there is no known antidote for pilocarpine except to efface it by elimination.

Two Cases of Leucokeratosis Buccalis; Comparison With the Histological Changes in a Case of Tylosis Palmæ et Plantæ.—SYLVAN ROSENHEIM, M. D. (Johns Hopkins Bulletin, February, 1904).—The author found upon microscopic examination of a piece of the cheek affected by leucokeratosis buccalis, that there is an extreme thickness of both mucous membrane and submucosa and that there is present a new layer, a very thick horny layer, just as in the skin but much thicker. The mucous membrane of the patch, then, consists of the outer, horny layer and the inner layer, the malpighian layer. The outer layer does not show nuclei. The malpighian layer is much thickened and shows well-defined nuclei and nucleoli. As the horny layers approach the latter become less distinct. The submucosa is very strongly infiltrated with round cells about the vessels and just under the epidermis.

In tylosis palmæ and plantæ the microscopic appearances were as follows: First, the stratum mucosum somewhat thickened, the stratum granulosum has large distinctly stained granules, the papillæ are rather numerous and extend deep into the mucous layer. About the vessels are a few round cells.

The essential changes in both of these diseases are very much alike, namely, the process of keratinization resulting in one case in the formation of a new layer and in the other a great increase in the thickness of the horny layer and infiltration in the chorium of young round cells.

In leucokeratosis the etiological factors probably lie first in the peculiar susceptibility of the epithelial cells of the part to irritation, as, in the use of tobacco, due to smoke. In one of the cases the spot developed exactly where the patient was in the habit of holding his quid of tobacco. Syphilis, gout and rheumatism are given as etiological factors.

Staphylococcus Aureus Infection.—ARTHUR G. ROOT, M. D. (*Medical News*, February 6, 1904).—Dr. Root reported before the eighty-eighth meeting of the Medical Society of the State of New York some cases on this subject. He remarks that this organism often occurs in the skin and may usually be found in the mouth, nose and ear. In one of the cases reported the patient suffered from a boil which was followed by swelling with pain and, finally, an abscess of the knee. In another case the patient had a run-around of the nail which lasted for a considerable period and finally led to some lymphangitis, from which grave septic symptoms developed. He remarks that the staphylococcus albus

is grown from these cases and that in the laboratory after about ten days they take on a certain amount of golden yellow color.

Treatment of Lupus.—GUNGSMANN (*Annales de Derm. et de Syph.*, May, 1904).—Gungsmann presented two cases of lupus before the Gesellschaft der Aerzte in Wein cured by the extirpation of the diseased area. Among the numerous methods employed for the cure of this condition, he remarks that two only are of radical value, first, total extirpation, followed by a plastic operation and treatment by Finsen. These two modes of treatment are equally important and are complementary. In those cases where it is possible, extirpation of the diseased area has a great advantage over the Finsen treatment on account of the shortness of the duration of the treatment. But in those cases where the disease is widely disseminated, the rays are preferable and more practicable. He reports 80 to 90 per cent. of cures by the extirpation method.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Hot Water Applied Directly to the Cornea in the Treatment of Corneal Infiltrations.—MANOLESCO (*Ann. d'Oculist*, March, 1904).—The effect of heat on the migration of leukocytes led the author to experiment with the action of hot water in deep infiltrations of the cornea, especially in parenchymatous keratitis. After cocaineization hot water (80 to 90 C.) is allowed to fall drop by drop on the cornea. The application is continued for from five to ten minutes and is repeated twice a day. The temperature of the lower conjunctival cul-de-sac is increased about 1°, circumcorneal injection is increased and corneal vascularity becomes more apparent. This condition lasts from two to five hours.

Conclusions drawn from twelve cases treated in this manner are as follows: (1) In parenchymatous keratitis the treatment is superior to other local treatments; (2) it hastens the resorption of corneal infiltrations and serves also as an irritant; (3) it is easy to apply and is not followed by any ill effect even if the water is a little too hot.

Notes on the Cure of Chronic Catarrhal Inflammations of the Lachrymal Canal with Preservation of the Normal Anatomical Relations.—W. GORDON M. BYERS (*Ophthalm. Review*, February, 1904).—In chronic catarrh of the lachrymal duct the earliest anatomical changes are situated at the inferior meatus. Swelling of the mucous membrane at this site (as from irritation by cold wind, etc.), will effectually occlude the passage. In such cases adrenalin applied to the inferior turbinate, in the vicinity of the inferior meatus, will temporarily stop the epiphora. Occasionally permanent cure can be effected by the topical application of astringents:

(silver nitrate, 2 to 4 per cent.; argyrol, 10 to 20 per cent). Rarely stronger measures, such as the application of chromic acid, the cautery or even the removal of a piece of mucous membrane may be required.

When the swelling is situated too high to be reached by topical applications Byers proceeds as follows: A special syringe nozzle with a swelling five mm. from the end is introduced into the lower canaliculus and pushed home. A clamp (of the author's devising) is affixed to the upper canaliculus. Both puncta are so effectually plugged that regurgitation is impossible.

To test the patency of the canal, adrenalin, 1-2000 is injected. If the fluid passes readily, the eye will be found quite dry shortly afterward. Occasionally adrenalin alone will effect a permanent cure. If not, injections of organic silver salts may be required.

If an obstruction is found adrenalin is injected at intervals without removing the syringe. The mucous membrane is thus contracted little by little from above downward and fluid can finally be forced through. With the extra power gained from the clamp and snub-nosed nozzle, patency can often be established without the use of probes. Accidents may be avoided by *not* slitting the canaliculus, and carefully regulating the force applied. Cases with dilatation of the sack are not suitable for the treatment. Patency is apt to remain or it can be readily re-established.

In cases of unilateral epiphora, the blockage is often occasioned by polyps, septal spurs, etc. The author believes that in at least five per cent. of all cases obvious nasal conditions are the direct cause of the trouble.

Operation for Secondary Cataract.—MANOLESCO (*Ann. d'Oculist*, March, 1904).—Secondary cataract occurs in various gradations from simple opacification of the posterior capsule to a thick membrane composed of the posterior and anterior capsules, the remains of the cataract, and iritic exudates united by inflammatory products. Operation should be deferred until at least four months after the disappearance of any irritation incident to the process which has given rise to the secondary cataract. That method which creates an opening sufficient for the passage of light and at the same time does the least violence, is to be preferred.

Depending on the anatomic-pathologic character of the cataract, three operative methods are advocated. The first is applicable especially to cases where the thick posterior capsule alone forms the cataract and the iris still possesses some elasticity. The method is described as follows: A narrow Graefe knife (with the cutting edge down) is entered at the upper outer limbus corneæ three to four millimeters above the horizontal meridian of the cornea, and is passed (within the anterior chamber) to the vertical meridian. The handle of the knife is raised toward the median line, and the cataract pierced at its upper border. The cutting edge is then turned forward, the handle elevated gently toward the forehead, and the knife pushed down behind the cataract until the point is opposite the desired lower border of the pupil. The handle is inclined to the temporal side, the cutting edge thus being directed forward to the cornea. Ordinarily the cataract will be divided before the point penetrates the cornea, but occasionally it may be neces-

sary to penetrate the cornea in order to divide the membrane. Under these circumstances care should be taken to make the puncture outside of the pupillary zone.

(2) *The extraction of secondary cataract.* This method is indicated in cases of opaque membranes of capsular origin, thick centrally and thin at the periphery. Such cataracts are readily detached with forceps without injury to the ciliary region.

(3) *Extraction of a portion of a secondary cataract after double horizontal section, including the cornea and the cataract.* A portion of the cataract is drawn through one of the transverse cuts and abscised. The author reports a case operated successfully by this method in which the membrane was one millimeter thick and grated on section.

Ocular Examinations of Criminals.—TRUC, DELORD and CHAVERNAC (*Ann. d'Oculist*, January, 1904).—The authors undertook an ocular examination of 556 inmates of the Central Prison at Nîmes with a view to determining the existence of ocular stigmata. They concluded that the prisoners examined did not present any notable peculiarity with respect to visual acuity, visual fields or color vision. Various ocular lesions observed did not present anything out of the ordinary.

BOOK REVIEWS.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By CARL VON NOORDEN. Translated under the direction of Boardman Reed, M. D. E. B. Treat & Co., New York.

Part IV deals with the acid autointoxications. The sources of the acetone bodies, oxybutyric acid, diabetic acidosis, etc., are among the subjects touched upon. The pamphlet contains within a few pages the mature opinions and the results of years of work by the author, who is one of the greatest living authorities on metabolism and its disturbances.

A TREATISE ON DISEASES OF THE RECTUM, ANUS AND SIGMOID FLEXURE. By JOSEPH MATHEWS, M. D., L.L. D. Third edition. Revised. Appleton & Company, New York. 1903.

The author's reputation on the subject in hand gives to this work the stamp of approval. Some six hundred pages are devoted to the diseases of the rectum, anus and sigmoid, and yet there is nothing superfluous. The subject matter is well selected and fully considered. The illustrations are copious and well produced. For specialist and general practitioner alike the work has great value.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By JAMES M. ANDERS, M. D., Ph. D., L.L. D. Sixth edition. Thoroughly revised. W. B. Saunders & Company. 1903.

The fact that six editions of this work have appeared in as many years speaks for itself. Intended for the student and practitioner of medicine, it has been rendered up-to-date, concise and systematic in arrangement. Those subjects concerning which our knowledge has rapidly grown, such as malaria, yellow fever, bacillary dysentery, cholecystitis, etc., have been carefully dealt with. New diseases have been added, such as paratyphoid fever, the fourth disease, trypanosomiasis, orthostatic albuminuria, transcortical aphasia; etc. Diagnosis has received special attention, and the newer methods employed have all been touched upon. All in all, the work is complete and in every sense modern. It contains in a condensed and practical form the most important knowledge for the physician, gleaned from an immense mass of literature.

NOTHNAGEL'S ENCYCLOPÆDIA OF PRACTICAL MEDICINE—DISEASES OF THE STOMACH. By FRANZ RIEGEL. Edited with additions by CHARLES G. STOCKTON, M. D. Authorized translation from the German. Under the editorial supervision of ALFRED STENGEL, M. D. Philadelphia, New York and London: W. B. Saunders & Co. 1903.

No text-book on diseases of the stomach commands greater respect in Germany than that of Riegel. As an author he is known for his conservatism and simplicity. Any one who will carefully peruse the eight hundred and fifty pages herein contained will necessarily acquire a working knowledge of diseases of the stomach. The author's explanations are so complete, his views so definite, and methods so simple that one has no difficulty in interpreting his meaning.

Part I deals with methods of examinations in diseases of the stomach, examination of the stomach's contents, the treatment of diseases of the stomach in general, and the methods of curing and relieving diseases of the stomach; while Part II deals with special diagnosis and treatment of the diseases of the stomach. To all those desiring a special work on this subject, this volume cannot be too highly recommended.

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ORIGINAL ARTICLES.

ON MALIGNANT TRANSFORMATION OF CYSTIC BREASTS— RECORD OF A CASE.*

By MALVERN B. CLOPTON, M. D., of St. Louis, Missouri.

In presenting this subject I have in mind rather the discussion it will bring, than any new matter I have produced. The early experience which befell me of seeing a breast removed which contained a single cyst the size of an egg in whose smooth wall was implanted an adenocarcinoma of the size of a pea, has tended to make me question the innocence of each cystic breast I have seen since, and a few recent suspicious cases have again aroused the question of diagnosis and treatment for cystic conditions of the mammae and the possibility of a malignant change in cases that have gone on benignly for some time. No one but those who have to deliver authoritative opinions upon tumors of the breast, afterwards to be verified or falsified by minute examination, can appreciate the difficulty of deciding whether a given case of mammary cyst has arisen *de novo*, or whether it has not originated in a morbid growth which surrounds its walls or sprouts into its cavity.

The frequency of the discussion of malignant transformation of simple cysts in the writings of the older surgeons is indicative of a firm belief which they could not prove, but which clinically many believed to occur, but I shall only present the views of more recent observers, who have the support of microscopic examination. I am aware that the fundamental question of the etiology of cancer is the main issue in this uncertain transformation. I will not attempt to enter this field but will confine myself to observations of specific instances pointing to this change. This belief of the malignant transformation is based in part on the finding of evidences of chronic cystic mastitis in breasts removed for cancer, and clinically, on the appearance of carcinoma in breasts that have been for a long time the seat of chronic cystic degeneration.

In connection with every disease of the breast, cysts may be found. Classifications are theoretically quite easy, but the fact of the variety of conditions in which cysts are associated, almost tempts one to consider them accompaniments rather than distinct involvements. The somewhat

* Read before St. Louis Surgical Club, April 20, 1904.

simplified divisions into post-pregnant galactoceles, retention cysts and chronic cystic mastitis comprise all distinctly intrinsic mammary cysts, and of these I would draw your attention particularly to retention cysts and chronic cystic mastitis, and some of their subvarieties.

In considering the etiologic factors of cystic disease, one is impressed by the inconclusive position we are still in, which can be accounted for by the failure of any classification to meet both clinical and histological demands. The time of life when the breast may be the seat of cystic change may vary from puberty to menopause, with the greatest preference toward the latter. Chronic cystic mastitis has been considered to bear a close relation to the climacteric, but it is often found in young women, when there is no appreciable difference in the histological structure, or clinically from those of older women. If there is a pathological entity, a simple retention cyst (which one is inclined to be skeptical about), these are described as occurring by preference during the atrophy of the climacteric.

The relation to menstruation or its disorders is frequently mentioned and is noticed particularly by König, who calls attention to the pain and occasional increase of the tumefaction at menstruation, particularly if menstruation is painful, explained by the congestion in the breast, that normally occurs at this period. The breasts may be the seat of uneasy sensations, pains and aches, worse at the menstrual period and harassing the patient with the fears and terrors of cancer, while there are cases which show no uneasiness even when manipulated. Remembering that neuralgia of the organ is so frequently encountered, let us consider pain as a very uncertain symptom, only reliable in cases without other nervous manifestations.

If one bears in mind that carcinoma is most likely situated in the upper and outer quadrant, the general statement might also be made that cysts come any place in the gland, large single cysts showing a slight preference for the locality near the nipple, but multiple cystic mastitis is distributed generally with a slight preference for the periphery. In the single cyst, due to blocking of the lactic duct, the contents may be discharged through the nipple, while rarely in the acinous type there may be an emptying of the contents at the nipple. The discharge if from a simple cyst is straw-colored, but if there is a papillary ingrowth present it may contain blood, or blood pigment in varying degree. Still cells and cell detritus are not necessarily diagnostic of malignancy, but are suspicious. Nor can we rest assured that no malignancy is present if the fluid is clear and straw-colored. The nipple is retracted rarely in simple cysts, but according to Sutton it may be inverted, and the skin is sometimes adherent to the tumor mass, particularly if there has been any previous infection. Both breasts are frequently involved.

In this much, as I have stated, little is conclusive to allow our diagnosis;

the chief reliance, after all, is in palpation, and in this we often are left undecided. In Greenough and Hartwells' series of thirty cases examined of chronic cystic mastitis, the indication was present in every case, and in ten cases was regarded as a tumor, and this proportion holds generally, according to most authorities. Palpation, to give reliable impressions, must be done with the flat hand pressing the gland against the chest wall instead of pinching the breast between the fingers, but if the cyst is large and tense, with a thick wall and buried deep in the mammary substance, a fair determination is impossible.

With the knowledge that 80 per cent. of all cases are cancerous the surgeon generally fears to delay in suspicious cases, while on the other hand, in those clearly innocent cysts he hesitates to sacrifice a whole gland unless other symptoms demand, irrelative to their pathological nature.

The points that I want to make this evening are:

1. Certain diagnosis is impossible in the great majority of cystic diseases of the breast.

2. There is a liability of malignant change always present in a benignly diseased breast.

3. Operative relief should be radical in most cases.

As to the uncertainty of diagnosis I have said enough and will turn to the liability of malignancy arising in benign cysts as a next consideration.

Cystic disease of the breast is in many points similar to cystic degeneration of the ovary, since both come on about the same time in life, are in the beginning benign, but are equally apt to be the seat of papillary ingrowths, and as Ziegler says, "the analogy extends to their clinical, as well as histological characters, for when the epitheal proliferation and the production of papillæ become exuberant the mammary growths are apt to acquire a certain degree of malignancy and pass without any abrupt transition into undoubted carcinoma. Accordingly it is not impossible for a proliferating mammary cystoma to give rise to secondary growths possessing the structure of carcinoma."

Shield is not so definite in his insistence on carcinomatous change in cystic disease of the breast, but described a class of cases in which cancer appears to infiltrate the walls of a pre-existing cyst and yet, while being rare, relates the three cases of Symonds which are clearly carcinomatous degeneration of papillæ in pre-existing cysts.

Dennis is clearly of the notion that the cysts may degenerate into malignant neoplasms and recommends Thomas' operation of cutting a flap of skin (with areola and nipple) with base upward, and excision of the gland in all cases over thirty-five years of age.

De Costa says cystic breasts are dangerous because they are likely to eventuate in duct cancer.

On the other hand, Bull is of the opinion that there is little evidence

to show the malignant degeneration in cysts, and Abbe more recently has reiterated this belief and recommends aspiration of cysts, which he has done in forty-one cases in the past eight years, and following practically all of them to the present time finds only two of them refilled and in these a secondary aspiration cured. He thinks cysts of the breast much more common than generally thought and that the differential diagnosis can be easy and absolute and the cure can be said to be as easy and absolute. J. Hutchinson, Jr., says, "Involution cysts met at the periphery start in the terminal acini or ducts and are due to the constriction by increased fibrous tissue. The change the living epithelium undergoes readily suggests a termination in cancer, but I believe with Bull and others that there is no proof of such transformation." He, however, presents a specimen showing the supervention of schirrhus in and around a small adenoma which had existed for thirty years and alludes to a similar case of Dr. Collinworth of schirrhus developing in an adenoma.

Snow reported a case of malignant invasion of a cyst formation that accompanied connective tissue hyperplasia. Ellis reports a case of cystic degeneration showing transformation into Schirrhus carcinoma and emphasizes his belief in the strong probability of malignant transformation occurring in cystic degeneration of the breast.

Greenough and Hartwell, in a most excellent article,* have recently described thirty chronic cystic breasts and believe that the increased fibrous tissue is the normal stage of decline of the gland at menopause, and are convinced that the French view implying an inflammatory process, due to a bacterial infection of the ducts, is erroneous. Quoting from their paper: "Papillary outgrowths of epithelium of columnar form was present in thirteen cases, some due to a confluence of adjacent cysts, leaving a connective tissue stalk, while other similar structures were apparently produced by simple proliferation and heaping up of epithelial cells. A high degree of epithelial proliferation in cysts was found when papillary outgrowths from the walls met and united in the center or anastomosed laterally forming masses of epithelium without connective tissue support. In these cell masses the tendency to formation of a gland lumen and arrangement of the epithelial cells radically around this space could be demonstrated beyond all doubt. This form of growth the writers, for lack of a better term, have designated as adenomatous proliferation." This phenomenon has been described by Paul as the growth of carcinoma infiltrating a pre-existing cyst. That it approaches carcinoma cannot be denied, but in twenty-seven cases it was present seven times and in not one of these cases could carcinoma be demonstrated elsewhere.

That these progressive changes of the epithelium occasionally go

* Journal of Medical Research, June, 1903. A complete bibliography is given.

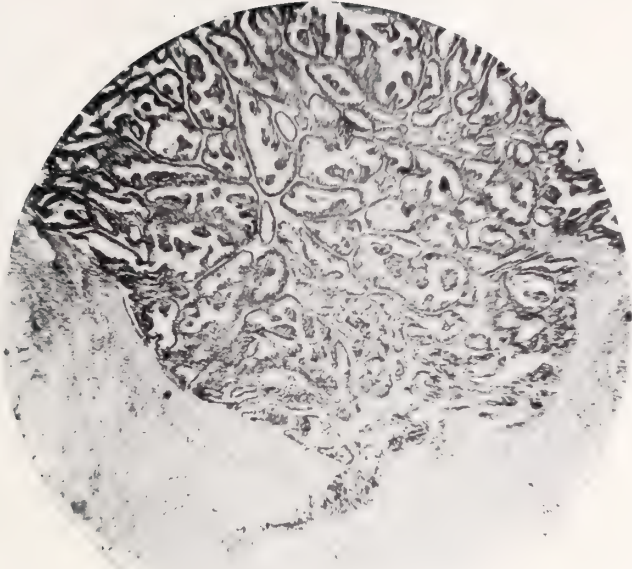


FIG. A.—Magnified 100 times. Operation October, 1900. A benign cystic papilloma, breaking through its capsule at a point where the cells have arranged themselves atypically.

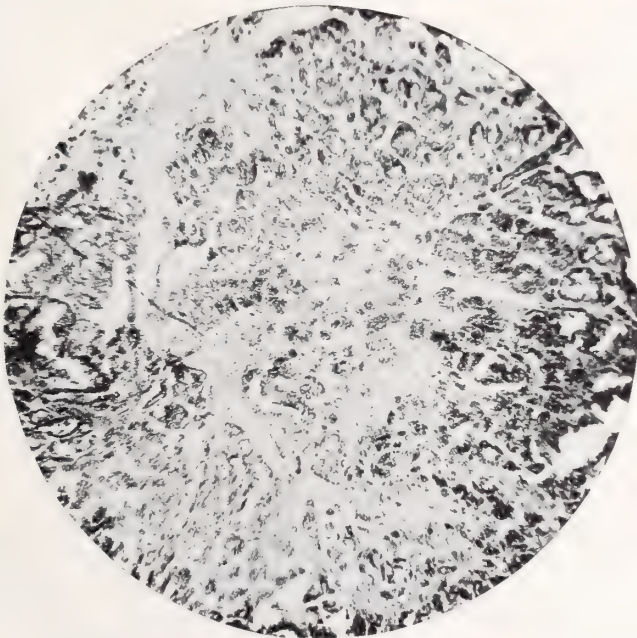


FIG. B.—Magnified 100 times. Operation December, 1901. Complete amputation. Irregular arrangement of epithelium with areas where cells are enclosed in overgrowth of fibrous tissue.



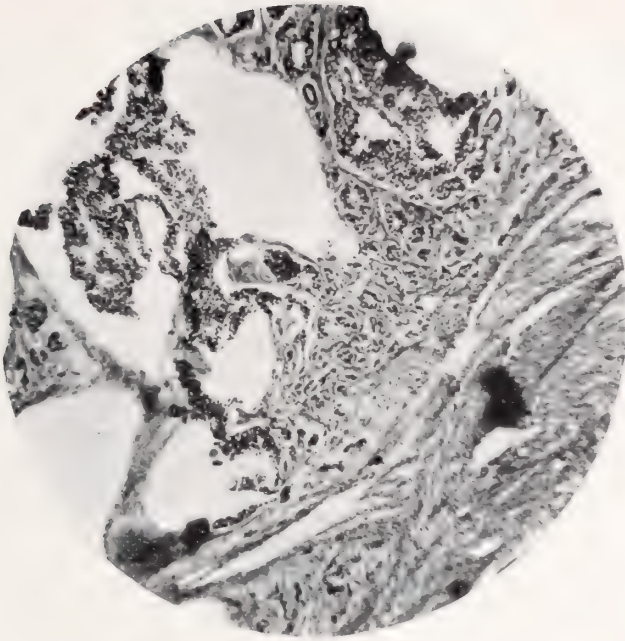


FIG. C.—Magnified 100 times. Removed March, 1904. Metastasis removed with remnant of pectoral muscle. Type approaches scirrhus in places. In one large cyst is seen the adenomatous arrangement of epithelium with an attempt at formation of lumen. Also a suggestion of original papillomatous cyst.

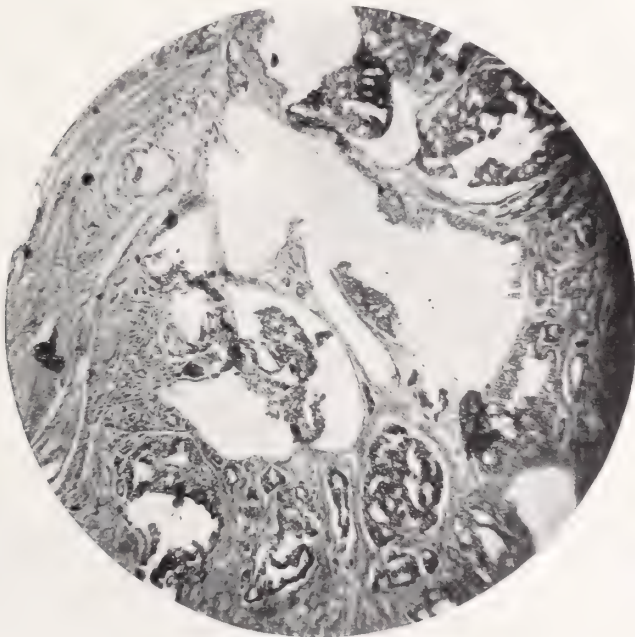


FIG. D.—Magnified 250 times. Same as Fig. C.



beyond the border line, and present characteristics of actual new growth and that of a malignant nature, can be demonstrated. Carcinoma was present in three of their cases in addition to the lesions of chronic cystic mastitis, and was based on the following histological characteristics not found in the twenty-seven other cases: 1. Extreme degrees of proliferation of epithelium; 2, irregularity in size and shape of nuclei and of epithelial cells; 3, mitosis frequently observed, occasionally atypical in form, and evidence of infiltration of epithelial cells in masses of irregular shape and without limiting membrane. The areas of undoubted carcinoma were all of the same general type. Epithelial cells were heaped together without connecting tissue support while here and there cells arranged themselves radially about a lumen, such a picture as is usually designated adeno-carcinoma. The gross examination of these three malignant cases had failed to show carcinoma, but presented the typical increase of fibrous tissue and multiple cyst formation.

The case which I want to present to-night is a very interesting one, in that observations have been made at various periods of growth and changes in structure have been noted which show a transition from innocence to malignancy, and, in one or two places, this change can be in part shown in the same preparation.

Miss E. D. C. was seen by Dr. Henry H. Mudd in March, 1892, suffering from apparently a diffuse chronic cystic mastitis in which the upper and outer quadrant of the gland was most involved. There had been discharge from the nipple, watery but occasionally bloody.

A little later in the year he noted an increase of the process, two-thirds of the gland being involved. In June, 1893, he excised a portion of the gland. In July, 1895, and October, 1896, he again removed small nodules, and in May, 1897, another small tumor beneath scar.

The nature of the original tumor mass is clearly described by Dr. Beggs, at that time pathologist to the Washington University Medical Department: "This consists of large, irregular alveolar cavities lined with one or more layers of columnar polyhedral epithelium. Projecting into the alveoli are branched bands of connective tissue covered with the same kind of epithelium. The stroma consists of cellular connective tissue. In one place the epithelial cells are intermingled with the stroma without definite arrangement."

After several small nodules had been excised from time to time, a complete amputation of the breast, with removal of the axillary contents and part of both pectorals, was done by Dr. Harvey G. Mudd in December, 1901, and since then there has been no further trouble. The breast tissue remaining at the time of the last operation was scanty, but contained nodules which were carcinomatous of a type to be described, and in the axilla was found a gland which contained a metastatic growth.

The examination of the tissues removed at the last operation showed a number of small nodules about the size of a pea and one or two 2 cm.

in diameter, scattered through the remnants of the breast tissue, which were distinctly encapsulated, and on section were granular and white in appearance and rather friable under pressure. The description given above of the microscopic appearance of the tissue first removed will apply to some of these subsequent examinations. The picture is strikingly like a papillomatous cyst of the ovary, the thin stalks of the papillae being covered with a single layer, occasionally increased to a double layer of columnar cells, while in every section a complete capsule can be demonstrated. The section which I would call your particular attention to, shows a change in this regular appearance, which is to be regarded as a malignant transformation. In cut "A" the picture is one of a benign cystic papilloma, but at its periphery is seen an atypical arrangement of cells near the capsule, and at one point these cells are seen to break through the capsule. This growth was obtained a year previous to the complete amputation, but the atypical appearances at the time of the removal of the whole breast are more numerous, and while not showing the striking transition from a simple to the malignant form, have the conclusive evidence of malignancy in the fact that there is a metastasis in the axilla. The opportunity afforded by this case of a series of observations of growths from the same gland, which showed transformation in progressive stages from a clinically benign to a clinically malignant growth, and also microscopically was possible to demonstrate at least one of these malignant changes, adds another observation which may serve in a small way to nullify the dangerous dictum put forward by Bull, Hutchinson, Bryant and others that malignant transformations of mammary cysts are unknown.

The treatment of cysts of the breasts must vary with the conditions of the organ. In certain rare cases where only one cyst is found, and that near the surface and easily diagnosed, simple aspiration will suffice, or better incision which will allow the inspection of the lining membrane. If there is a question of diagnosis on account of the deep and inaccessible situation of the lump an incision into the growth might sometimes be justified, always bearing in mind that if cancer is found this preliminary disturbance is likely to distribute the cancer cells throughout the neighboring lymphatics or into the blood stream. In deep-seated suspicious cases of single nodule, and in all cases of multiple cystic breasts, it is best to remove the entire gland through a curved incision beneath the breast, leaving the nipple in place. This procedure, as recommended by Thomas, leaves very little scar and is not deforming, and can be made the preliminary step of the complete Halsted operation should the gland removed show evidence of carcinoma when examined immediately.

NOTE—Since reading this paper the patient has been operated upon for a nodule which appeared above the sight of the previous operations, which, when dissected, was found to lie over the remnants of the pectoral mus-

cle left at the time of the amputation of the breast. The mass was about the size of a hazel nut, and was firmly attached to the surrounding tissue, the skin being, therefore, removed over an area the size of a dollar, together with that part of the pectoral muscle which remained. This mass showed a carcinoma with the cells arranged in places as is found in an adeno-carcinoma, and in places the connective tissue had increased to an extent that the picture was typical of scirrhus. The cystic nature of the parent growth is still seen. A photomicrograph of this mass shows its type.

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SUPPURATIVE OSTEO-MYELITIS.

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The subject of osteo-myelitis, of course a very old one, and one that has in years gone by been thoroughly discussed, does now, on account of the disease being so frequently found in our hospitals and in the practice of general surgeons, elicit our most intense interest and should call forth our best efforts to attack and conquer it.

It is only of recent years that the pathological anatomy has been correctly interpreted, and has thereby clearly demonstrated that the older surgeons often opened abscesses that occurred in the early stages of the disease, believing them to be simply on account of the location of the pus, the results of a suppurative periostitis, and I am not wrong when I assert that similar mistakes are frequently made now.

Osteo-myelitis, distinctly an inflammation of the bone marrow, seems not to have gotten its name until Nelaton so described it as a special disease in 1834, when Pirogoff, Allen, Mr. Stanley and others substantiated his views. So clouded was the exact nature of the disease that it was often mistaken for acute rheumatism, typhoid fever, then called bone-typhoid. Rosenbach, in 1881, by cultivating the staphylococcus of osteo-myelitic pus and injecting a pure culture of same into the circulation of animals that had been subjected a few days prior to some bone injury, produced a suppurative inflammation at the seat of the trauma. He also assumed that after a first attack of osteo-myelitis some of the microbes remain in the tissues in a latent condition until at some subsequent time local conditions are created which enable them to again show their specific pathological properties. The pus of osteo-myelitis may contain the staphylococcus aureus, or albus, and not infrequently the pneumococcus has been found. Undoubtedly the staphylococcus aureus, and especially in children, is the most frequent cause of the disease. When a streptococcus invasion has occurred we get a more irregular fever, a redder skin, painful adenitis and lymphangitis, and if there is metastasis it is usually articular, synovial or serous.

As to the etiology of osteo-myelitis much has been written, and, of course, now all agree that the cause is the microbic infection, but as to the mode of entrance or avenue of infection authorities are still at variance. Kraske, for example, has claimed that many cases closely resemble pyemia in their origin, and cites that an osteo-myelitis may originate from a skin abscess which has already healed. The tonsil, the intestinal and respiratory tracts have all been thought to be the routes along which the bacteria gain their entrance. Typhoid and other low forms of fevers, and tuberculosis seem to invite subsequent osteo-myelitic processes. We know that the capillary vessels of medullary structure have a caliber that is four times greater than the caliber of the arterial vessels that supply them, which undoubtedly favors the location of microbes in such a territory, and that the long bones, especially near their epiphyseal cartilages, are the usual seat of osteo-myelitic processes has been clearly proven. Why the region near the epiphyseal cartilage should be selected by the pus to do its damage can be well explained when we consider that in growing bone there is continually a newly-formed spongy tissue, very vascular and without fat, and the periosteum intimately connected with the cartilage. What more can nature do to make the attack of these microbes an easy one. Bearing in mind, therefore, the delicate and very vascular tissue in these regions it is easy to understand how a slight injury, which is enough to bruise these vessels, causing some effusion of blood, interferes with the nutrition of the part, opens a nidus for the infection and results in the terrible bone destruction which this disease is capable of. Often an injury, which, apparently slight, causes minute fractures of the bony trabeculae and in this way again favors an osteo-myelitic process.

In the case I wish to present to-night, I believe this latter pathological condition was the beginning of the trouble: A little girl of ten years of age, not strong, having gone through a spell of typhoid recently, fell out of a swing and turned her ankle, as she explained it, but after an hour of quiet she was again able to resume her play, complaining only now and then of slight pain. On the following day the ankle became badly swollen and a physician was called in who diagnosed a sprained ankle and ordered hot applications. The history of the case up to the time when I saw it was that the swelling had persisted, and in two places above the ankle showed inflammatory signs, whereupon small incisions had been made, pus being evacuated. When I was called to see the case the old incisions had healed, but the entire leg showed inflammatory trouble of deep-seated nature, and while all signs pointed to suppurative osteo-myelitis, I nevertheless insisted upon having an x-ray photograph taken so as to see, if possible, the extent of bone involved. The pictures show that the diseased condition started at the epiphyses and continued up the tibia for the greater part of its shaft, and with this knowledge to guide me I made a long incision over the tibia from the

ankle almost to the knee, got down to the bone, found the usual phlegmonous inflammation of the soft parts and the periosteum almost entirely destroyed. The bone for a number of inches was necrotic and could be lifted out, and where the medullary canal was involved, thorough opening, curretting and disinfection was resorted to, particular pains being taken not only to remove the sequestra formed, but to clean out completely the medullary cavities so as to invite a quicker asepsis and repair. By the method prescribed, followed by rest in bed, proper bandaging, splints, etc., with a nourishing diet, I was able to cut short the osteo-myelitic process, kept it from extending to the ankle joint, although it had reached, as the picture shows, almost to it, and have now the satisfaction of seeing my patient, one year after the operation, in good health, with a practically perfect leg and ankle. The lessons to be learned from this case I think are:

1st. That slight injuries may produce this disease, especially when there has been a fracture of some of the bony trabeculae.

2nd. That an x-ray photograph, taken as early as possible, is a great help in making a diagnosis and guides one in the selection of the treatment.

3d. To make the incisions very long and to be sure to thoroughly cleanse the medullary canal.

TREATMENT OF CERTAIN EXTERNAL DISEASES OF THE EYE BY X-RAYS*.

BY JOHN GREEN, JR., M. D., of St. Louis, Missouri.

In the following paper I propose to give a brief resume of radiotherapy as applied to certain external diseases of the eye and its appendages, in the hope that your interest may be awakened in a branch of ophthalmic therapeutics which is still in its infancy, but which, if results already attained be any criterion, is destined to prove a valuable adjuvant to time-honored methods of treatment. The number of cases of ocular disease submitted to the rays is still too small to admit of any positive dicta relative to the precise limitations of the treatment and the diseases to which it is applicable. Nevertheless, results in certain classes of cases have been so uniformly excellent as to leave little room for doubt in the mind of an unprejudiced observer that a therapeutic method of superior merit has been added to the ophthalmic armamentarium.

The brilliant results obtained by dermatologists in the radiotherapy of cutaneous carcinoma led to the utilization of the rays in the treatment of this disease as it manifests itself in the eyelid. As you are doubtless aware, these skin cancers of the eyelid have heretofore proved

* Read before the Missouri State Medical Association, 1904.

very difficult to deal with. Treatment consisted either in the application of caustics—a method which usually proved of little value—or in the removal of the growth by operation. These methods, even when successful, had the disadvantage of creating thick, contracted cicatrices which grossly deformed the lid margin. Plastic operation, while lessening the deformity, failed to yield a result cosmetically perfect. Furthermore, recurrence of the disease was to be expected in a certain proportion of cases. One of the first to approach the question from the standpoint of the ophthalmic surgeon was Sweet,¹ who reported three cases of epithelioma of the eyelid treated by radiotherapy. Of these, two were entirely cured; in the third the early improvement was not maintained. The failure in the latter case was ascribed to the fact that the rays were prevented from exerting their maximum effect on the orbital portion of the tumor, the patient refusing to permit the removal of the overlying atrophic globe. In a more recent paper Sweet² states that he has treated twenty cases of palpebral epitheliomata and has effected a cure in eighteen. One of the failures is referred to above. In the other—a case of rodent ulcer of the side of the head—the rays acted well for a time, but later the disease spread to the external canthus. In all the successful cases the diseased area was covered in by pliable, normal-appearing skin. One of the effects of the treatment was the notable relief of pain which Sweet ascribes to trophic change, possibly secondary to changes of degeneration in the finer nerve filaments. The cure was effected with a minimum of distortion of the lid margin. Recurrences were infrequent and were readily controlled by a secondary application of the rays. Similar results have been obtained by Pusey³, Mayou⁴ and others. The attitude of all workers in this field is well expressed by Sweet, who states that it is “no longer right to resort to plastic operations in cases of epithelioma and rodent ulcer of the eyelids.”

The technique of the application does not differ from that used by dermatologists: Thin sheets of lead, with an opening cut to correspond to the diseased area, is used to protect the uninvolved portion of the face. The patient is placed from six to ten inches from a low vacuum tube. The sittings, which should be of five to ten minutes' duration, will vary in frequency with the severity of the case. “Burns” are to be avoided by refraining from too long and too frequent exposures and by keeping the patient at a sufficient distance from the tube. With a view to preventing recurrence, it is recommended that sittings be continued from time to time after healing has taken place.

The application of x-rays to a disease exclusively ocular was first carried out by Mayou,⁵ who reported the cure by this method of a case of trachoma. He was led to experiment with radiotherapy in this disease on the following considerations: The efficacy of the treatment by caustics is due partly to the production of a leukocytosis with subsequent

cicatrization of the trachomatous nodules, partly to the mechanical removal of the diseased tissues, and the destruction of the specific causative agent. Caustics possess the disadvantage of partially destroying the normal palpebral epithelium, thus increasing the tendency to scar formation. The x-ray is an agent capable of producing a more or less prolonged leukocytosis from the mildest to the intensest grade without (except under ill-regulated exposures) seriously impairing the integrity of normal epithelium. Theoretically, therefore, it should exercise a most favorable effect on trachomatous tissue.

Judging from the surprisingly rapid and complete cure in this and subsequent cases, it must be admitted that Mayou's theoretical contentions have been borne out by the results of treatment. The technique of the application is described as follows: The upper lid being everted, the lower is pushed up so as to cover the cornea (in pannus the cornea is left exposed). The patient is seated nine inches from the anode of a moderately-soft tube and is given daily sittings for four to six days, followed by a week's rest. Should there be no reaction the sittings are continued twice a week until the appearance of photophobia which indicates beginning reaction. Shortly after, the trachoma bodies begin to disappear. Sittings are continued once or twice a week until the masses are no longer visible. A certain amount of injection of the conjunctiva persists for several weeks after cessation of treatment and it is not possible to tell whether all masses have disappeared until this has subsided. Pannus disappears rapidly and old opacities and corneal scars clear up surprisingly.

The cases best suited for treatment are those of the ordinary chronic type. Acute cases exhibiting diffuse infiltrations with much photophobia require very careful management and are not so favorably influenced. In the end the conjunctiva is left free from scars and uncontracted. The following positive advantages are claimed: (1) The cure is effected with a minimum deformity of the lid; (2) the treatment is painless; (3) pannus clears with unexampled rapidity.

Mayou's results have been confirmed by a number of observers, notably by Stephenson and Walsh.⁶ In four cases of severe bilateral trachoma these authors subjected one eye only to the x-ray, the fellow (or "control" eye) being either untreated or treated by ordinary methods. Two cases were absolutely cured, the other two showed marked improvement, while in all the "control" eyes remained *in statu quo*. In the same paper the authors report the complete cure of a severe case of trachoma by the application of a mild high frequency brush by means of a vulcanite electrode. This interesting result led them to advance the suggestion "that the common agency may be a brush discharge visible from a high frequency electrode, but invisible from the focus tube." The two methods have been combined by Geyser,⁷ who reports eighteen cases successfully treated. After six to eight exposures to the x-ray,

the treatment is continued by the direct application to the conjunctiva of a high frequency vacuum electrode, for from one to three weeks.

A case of tuberculosis of the conjunctiva, in which the clinical diagnosis was substantiated by microscopic examination, the finding of the tubercle bacillus and successful animal inoculation, was subjected to x-rays by Stephenson.⁸ The case was practically well at the end of six weeks, no trace of disease remaining two months later. It is noteworthy that the cure was effected without the slightest deformation of the lid margin.

Any practitioner who has attempted to treat a case of vernal conjunctivitis has probably reached the end of his therapeutic resources long before he has made a permanent impression on this intractable disease. The success which attended the application of x-rays in a case of Allport's⁹ would seem to offer grounds for the hope that this method, if not productive of a permanent cure, would at least hold the disease in check during the annual hot weather exacerbations. Disappearance of the granulations from the lids and corneal margins, with the complete relief of subjective discomfort—lachrymation, burning and itching—were secured in a case of seven years' standing.

Harper¹⁰ reports the entire disappearance under x-ray treatment of three dark spots of pigment which persisted after the operative removal of a melano-sarcoma of the sclera. Pusey³ applied the rays in a case of deep carcinoma of the orbit and in glioma recurring after operation for glioma of the retina. In both there was evident retardation of the malignant process.

A consideration of recent radiotherapy of the eye would be incomplete without reference to a case of sarcoma of the orbit recently reported by Fox.¹¹ The tumor was attached to the bone in the naso-orbital region and had caused a marked exophthalmus. The case was deemed inoperable and x-ray treatment instituted. Fifty-five exposures with a high-vacuum tube resulted in the complete disappearance of the visible and palpable tumor and the restoration of facial symmetry.

It is a remarkable and interesting fact that the only deleterious effect of x-radiance upon the eye has been the production of a mild conjunctivitis. Taking into consideration the susceptibility to x-rays of the most highly differentiated epithelial elements, Pusey¹² suggested the possibility of atrophy of the rods and cones of the retina from x-ray exposure. His fear has proved groundless.

All observers agree that the cellular elements of a tissue are primarily influenced by x-rays. The epithelial cells are affected in the highest degree, next the blood vessels, and, in lesser degree, the other tissues. The first effect is one of stimulation, which is followed by disintegration of the cell structure. Certain proliferative changes then take place in the inner coats of the blood vessels. Later an inflammatory reaction appears, with pronounced leukocytosis. Finally the leukocytes complete

the destruction of the degenerated cells. The reaction of pathologic tissue is similar, except that the cells of these tissues being, as Pusey puts it, "relatively unstable," are more susceptible to the profound nutritional disturbance produced by x-radiance and hence are disintegrated by a degree of radiance insufficient to impair the vitality of normal tissue. I have been unable to find any account of histological examination of trachomatous tissue during the period of x-ray treatment. It is probably fair to assume that the tissue changes are not widely different from those which take place in the skin.

In the light of our present knowledge of the radiotherapy of ocular disease, the following conclusions would seem to be justified:

1. In epithelioma and rodent ulcer of the eyelid, radiotherapy surpasses all other methods of treatment.

2. In selected cases of trachoma, radiotherapy offers the possibility of rapid cure. The treatment is practically painless and the cure is effected with a minimum of deformity to the lid.

3. The method is worthy of trial in cases of vernal conjunctivitis, tuberculosis of the conjunctiva, orbital sarcoma and carcinoma and in recurrence of glioma after operation for glioma of the retina.

4. The treatment is without danger to the function of sight.

225 Vanol Building.

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CLINICAL REPORT.

CLINICAL NOTES ON A CASE OF HYPERTROPHIC CIRRHOSIS OF THE LIVER IN A FEMALE.

BY JESSE S. MYER, M. D., of St. Louis, Mo.

Hanot's disease (cirrhose hypertrophique avec ictère) is not altogether common in this country, and is at best infrequent in females. Schachman observed twenty-six cases, twenty-two of which were males. The occurrence, therefore, of hypertrophic cirrhosis in females is always of sufficient interest to justify its being placed on record.

A young lady twenty-six years of age consulted me because of an intense jaundice and amenorrhea of long standing, and recited the following history: Her father is in good health; the mother died of "dropsy," the primary cause of which she does not know. Her brothers and sisters are in good health. So far as she knows, there is no hereditary taint in the family. As a child, she had diphtheria and the other less serious diseases of childhood.

The menstruation began at the age of seventeen; was always regular and normal in every respect until about two years ago. In fact, until this time, she claims to have been in a perfect state of health, weighing 126 pounds. Her attention was first directed to the appearance of so-called "liver spots" about the face and chest; the menstruation disappeared; a slight cough with expectoration developed, and she lost weight rapidly. Following this she was confined to her bed for a period of eight weeks with "inflammatory rheumatism." She recovered in due time from this illness, and has felt fairly well and strong during the past year.

About a month ago she was informed by her friends that her "color was not good;" since then the skin and "whites of the eyes" have been becoming more yellow. It is this which brings her to the physician. She complains of a slight degree of weakness, drowsiness, and a "fullness in the abdomen." These symptoms are, however, of minor importance to her. She has had no pain in the abdomen, no dyspnea, no palpitation, no swelling of the extremities; her appetite is good, and her food distresses her in no way. Since the jaundice appeared she has noticed that the urine is of a dark brown color, that the stools are yellow, and have never been gray or clay-colored. There has been no itching of the skin.

Physical examination (March 5, 1904) revealed the following: The patient is considerably emaciated, muscles poorly developed, bony frame

small. The skin and mucous membranes are quite yellow, indicating a marked degree of jaundice. No enlargement of the lymph nodes.

The thorax is flat, the intercostal spaces quite apparent, the expansion of the chest poor. The apex beat is in the fourth interspace in the mammary line, somewhat accentuated. The heart and lungs are normal.

The abdomen is considerably distended, especially in the epigastric region. The superficial veins of the abdomen are somewhat distended, those of the thorax more so. The percussion note is absolutely dull over that part of the abdomen above the umbilicus, and quite tympanitic over the lower half. It is quite evident that the dullness is attributable to the enlarged liver. The upper border of the liver extends to the lower border of the fifth rib. The lower border on the right side extends almost to the crest of the ileum, the middle within two finger breadths of the umbilicus, and on the left side to the margin of the tenth rib.

The margin of the liver is hard and sharp, especially on the right side; the surface, which is nicely palpable in the epigastric region because of the thinness of the abdominal wall, is finely nodular, with here and there a larger nodule on the surface. The entire mass moves on deep inspiration. Palpation elicits no pain.

There is no evidence of the slightest degree of ascites.

The spleen is markedly enlarged, extending three-finger breadths below the free margin of the ribs and the margin of the liver on the left side. Weight, 106; temperature, 99; pulse, 111.

The examination of the blood reveals forty-five per cent. of hemoglobin, 10,900 leucocytes and 2,972,000 erythrocytes. The leucocytosis is due to an increase of the polynuclear leucocytes and the small lymphocytes.

The urine has a specific gravity of 1.016, is of a dark brownish color, acid in reaction, contains a large amount of bile pigments, no albumins, no sugar and no abnormal morphotic elements.

The feces are of a light yellow color, formed, contains no blood, or mucous.

The expectoration, a clear mucous, contains no tubercle bacilli.

June 3, 1904—Patient states that she feels considerably weaker, that the abdomen is swollen more than usual, complains of palpitation of the heart and slight dyspnoea upon exertion.

The physical examination (the fourth one made since the first visit of the patient) reveals for the first time evidences of ascites. The quantity of fluid, however, is not great. The liver has enlarged slightly since the first visit; the upper border now extends to the lower margin of the fourth rib, the lower border extending almost to the umbilicus in the median line. The apex beat of the heart is just under the nipple. The superficial veins of the thorax are more prominent, those of the abdomen being but slightly distended.

The patient breathes with some difficulty, especially in the reclining posture; respirations, 30 per minute; pulse, 120. Rough vesicular breathing over the entire chest; no rales. Slight enlargement of lymph nodes in the inguinal and cervical regions.

This form of cirrhosis of the liver has been known for about twenty years, but has only been accepted as a clinical entity of recent years. For some unaccountable reason a large majority of the cases recognized, and especially the earlier ones, were in France.

The etiology is in no sense clear. Syphilis and alcoholism seem to play no role in its production.

No cause can be found in the history of the case here presented. The patient has never had syphilis and has never used alcohol, and there is no evidence of either in the family.

The most logical theory as to the etiology of hypertrophic cirrhosis seems to be that of infection. No specific germ has been isolated, but the probabilities are that the infection takes place very gradually through the intestinal tract.

The point of chief interest in our case, aside from the interesting train of symptoms and physical findings, is the occurrence of the disease in a female. That it should occur in a young person is not unusual; on the contrary, the disease seems to occur largely in youth. Cases have been reported in infants.

In many cases ascites never develops, in others only toward the end of the disease. In this case it has developed somewhat earlier than was anticipated. It is doubtless an ominous sign. The patient is and has been able to be about constantly, making her visits regularly to the office.

The treatment can be only palliative. Calomel has been highly recommended by Nothnagel, Sacharjin, Sior and others; in this case, however, its administration has accomplished no perceptible results.

TUBERCULOSIS OF THE MESENTERIC LYMPH NODES— REPORT OF A CASE.*

BY CLIFFORD U. COLLINS, M. D., of Peoria, Ill.

The source of infection in abdominal tuberculosis has long been in question. Recent experiments (*Jour. of Med. Research*, Vol. v, December, 1903) show that the tubercle bacilli can enter the body from the intestinal tract without causing a lesion of the intestinal mucous membrane. In the case herein reported no history of tuberculosis in the family could be elicited. There was no evidence of tuberculosis elsewhere in the body of the patient. The node involved was in the mesentery of the jejunum, the most probable point for absorption to occur from the

*Case reported to the Peoria City Medical Society, April 5, 1904.

intestinal tract. Therefore, in this case, it seems reasonable to suppose that the source of infection was from the intestinal tract.

The patient was seen in consultation with Dr. G. H. Weber, who kindly furnished the history of the case previous to operation.

Miss J. K., aged twenty-five, single and a clerk in a store. The parents are living, and no history of tuberculosis in the family could be obtained.

The illness dates back to about March, 1902, with symptoms of constipation, which kept getting worse. About March, 1903, symptoms referable to the abdomen commenced with general heaviness and bloating, which persisted for a time, and then disappeared, only to reappear at intervals of several days with constant headache, coated tongue and general feeling of malaise. She ascribed this to malaria.

In July, 1903, she had several attacks of pain, both shooting and dull, in both right and left iliac regions, with considerable tympanites. In August she had a more severe attack. She could hardly walk because the pain was so severe. The patient was seen by Dr. Weber at this time. The temperature was 101°, pulse 120; there was considerable tympanites and great tenderness in the right iliac region. There was some tenderness over the entire abdomen, which would not allow much palpation.

In November the pain shifted suddenly to the left iliac region. From then on the temperature ranged from 99° to 100°, pulse 95 to 110.

The writer saw her about February 15, 1904. The abdomen was tender on pressure over McBurney's point. Temperature 99°, pulse 112. A hard round mass about the size of a hen's egg could be felt in the center of the lower abdomen, about one and one-half inches below the umbilicus. The abdomen was soft. The urinary examination revealed nothing abnormal.

The patient was taken to the Cottage Hospital, and operation performed on February 17, 1904. A median incision was made just below the umbilicus, over the mass, which was found in the mesentery of the small intestine. The abdomen was explored, but nothing else abnormal except a movable right kidney, which was known of before, was apparent to the eye or touch. The appendix was found adherent, and of more than average length, and was removed. The round mass was removed. In doing so, the blood supply of a portion of the intestine was interfered with, and that portion was resected. The ends were united with a Murphy button, reinforced with interrupted Lembert sutures of fine catgut.

The incision was closed with three longitudinal aluminum-bronze wires. The mass was found to be the remains of an enlarged node filled with calcareous matter. It proved to be a tubercular node which had undergone calcareous degeneration.

The convalescence was reasonably smooth. The Murphy button was passed on the fifteenth day. A mild phlebitis developed in the left leg on the twentieth day.

Dr. Weber reports today (April 5th) that the evidences of the phlebitis have practically disappeared. The temperature and pulse are normal, the patient is eating well and has improved in every respect.

The thickness of the wall of the resected portion of intestine, and the size of the valvulae conniventes, show that it came from the lower portion of the jejunum. This is corroborated by observations made during the operation. The intestine presented no evidence of tuberculosis.

TUBO-OVARIAN ABSCESS WITH BEGINNING GENERAL PERITONITIS.—SALPINGO-OOPHORECTOMY. — RELAPSE
AT NEXT MENSTRUAL PERIOD.—VAGINAL
INCISION.—RECOVERY.

BY FRED. J. TAUSSIG, M. D., of St. Louis, Mo.

The following case of streptococcic infection of the pelvic organs presents certain clinical features that are of more than usual interest.

The patient, Mrs. C., of East St. Louis, twenty-eight years of age, had been twice pregnant. The last time (November, 1903) there had been a miscarriage at three months' gestation, with sepsis following, necessitating a curettement. Recovery was apparently complete. Menstruation normal. In January her periods lasted from the 2d to the 6th, and were of the usual character. In February the flow was scanty, lasting from the 2d to the 3d, inclusive. The patient felt perfectly well until March 3d, when she again commenced to flow, and at the same time began to have severe cramping pains in the lower abdomen, particularly on the right side. The blood was somewhat clotted, but no large pieces were expelled. On March 5th, two days later, she had a chill, followed by fever, which ranged between 101° and 103°, the pains increasing in severity.

On March 7th I was called in consultation by the family physician, Dr. C. A. W. Zimmermann. The patient had been removed to Henrietta Hospital, in East St. Louis, and put upon the usual palliative measures for pelvic inflammation. I found, on bimanual examination, a very sensitive, somewhat fluctuating mass on the right side; the uterus slightly enlarged and pushed to the left; the left adnexa normal. The diagnosis lay between tubo-ovarian abscess and ectopic pregnancy. As the bloody discharge from the uterus persisted and the mass grew larger in size, I was somewhat more inclined toward the latter view in spite of the fever, which fluctuated between 101°-102°. The pulse ranged between 100-120; regular, but rather small in volume.

As there was no improvement under palliative treatment, and the mass now extended well up over the pelvic brim, I decided to operate. On March 10th the abdomen was opened. The pelvic contents were

found closed off by the intestines, the latter showing the dullness and injection characteristic of beginning peritonitis. As they were freed, pus welled up from the right side. The abscess lay on the right tube and ovary, and had partially ruptured into the pelvis. The adnexa of that side were removed, an incision made in the posterior vaginal fornix, and the area drained by gauze, both vaginally and through the lower end of the abdominal incision. The recovery was strikingly rapid. From the fifth day on there was no trace of fever. Drainage was continued for eight days. Both abdominal and vaginal wounds healed without trouble. So rapidly did the patient regain her health that by April 1st she was almost ready to be discharged from the hospital; there was no longer even the slightest tenderness on vaginal examination. As a matter of precaution, however, the patient was still kept in bed.

Suddenly, on April 7th, just when her menses were again due, she began, without apparent cause, to have abdominal pains and fever. This time the trouble was localized in the left side. A mass could soon be made out lying in the left parametrium, and, as it grew, extended toward the bladder; it gave rise to severe vesical tenesmus. Again palliative measures failed, and on April 15th a vaginal incision was made, and pus drained from the parametrium and tube of the left side. The patient made an excellent recovery, outside of a mild cystitis; which, however, also readily yielded to treatment.

It is interesting to observe how rapidly the patient regained her health after the first operation, in spite of the objective findings of a beginning general peritonitis. I had made a very unfavorable prognosis immediately after the operation, and was more than pleased at the course of events.

The most striking feature of the case, however, is the coincidence of the two attacks with the menstrual periods. It is not so unusual to see an inflammatory process exacerbate during this time. More unusual is it to have the process spring up suddenly, like a clap of thunder in a clear sky, as it did in this case. The rational explanation is, of course, that the increased congestion at menstruation served to light up processes previously dormant. In view of the absence of any other factors that might account for the second attack, and the apparently complete recovery from the first operation, I am strongly inclined to the view that a similar period of congestion was responsible for the return of the trouble at this time. Although we are at times powerless to prevent the return of such attacks, I think the deduction from cases such as mine must be, that after severe infections of the genital tract it would be well, even in the absence of further symptoms, to have our patients kept as quiet as possible during at least the succeeding five or six menstrual periods.

EDITORIAL COMMENT.

SOURCES OF TYPHOID FEVER.

Up to the present time two ideas seemed to be established and were taught in all text-books, and by almost all authorities: First, that in the majority of cases typhoid infection is to be attributed to contaminated water, and, second, that typhoid is a pathologic entity, always due to the infection with one and the same pathogenic bacterium. Up to the present time the infectiousness of typhoid is generally considered as very slight, and therefore negligible, while the efforts of all civilized nations are directed mainly to the purification of the water supplies to exterminate the disease.

The truth of these time-honored conceptions has been gradually undermined during the last few years, so that now every impartial judge would call them at least one-sided. Like in many other problems, it is due to Koch that in the typhoid problem new ways have been opened and a clear light is beginning to dawn. Koch's initiative was caused by a careful investigation of a local typhoid epidemic in a town in Germany, and his conclusions from this investigation were, in a general way, the following:

In larger cities it is possible to practically eliminate typhoid by the careful supervision, not only of the water supply, but also of the absolute extinction of danger impending from fecal or other discharges. In smaller communities, and in the country, this is not possible, and so typhoid will occur there as an epidemic disease.

Epidemiologically, two forms of the appearance of typhoid fever must be recognized: One, the explosive epidemic form, that is mostly due to water, sometimes to milk contamination; instances of this form in our country are not lacking; they are easily recognized as such and are not an independent form, but only an exacerbation of the second, the endemic form of typhoid that occurs wherever opportunity is offered without regard to condition of water and soil, but only due to the infectivity of infected human beings. In this city much has been said about the danger incurred by using the so-called contaminated Mississippi river water. A real epidemic which, in view of the lack of natural immunity against typhoid in man must, in a city like St. Louis, reach tremendous proportions has never existed, and the comparatively small increase or decrease can be much better explained by other factors than water contamination. That this is true is shown by the latest typhoid calamities in the East, the percentage there was immeasurably higher than it ever was in St. Louis. Typhoid is primarily endemic, and epidemics are only its exacerbation. To fight against typhoid does not

mean alone the protection of the water, and eventually of the milk supply, it means and must be primarily the attempt to make the typhoid fever patient innocuous, to prevent him from causing infection of other individuals. If this can be done the care of water and milk may return to a simpler method than is necessary to-day.

The contact infection of typhoid, so long neglected, stands to-day in the foreground of our interest. That it existed was well known, but that its danger had such a wide range, as we now know it has, is due to our increased knowledge about the time during which typhoid bacilli can exist in all the excretions of reconvalescents from typhoid fever. It is due to the fact that typhoid is not only an intestinal infection, but that its causative agent is present in immense numbers in all of the tissues of the infected individual. The disinfection of the excreta of typhoid patients has, if we consent to be credulous, become a general usage, but it is not widely enough known that the same individuals after their recovery, are liable to discharge immense masses of typhoid bacilli. In some cases the feces contain almost a pure culture as long as forty weeks. As a rule, three weeks may be considered as a probable limit, but there is no certainty about this in the individual case unless the strictest control is kept. Who thinks nowadays of examining urine and feces for the bacilli and making the discharge of the patient dependent upon their disappearance? In many cases so-called epidemics have been traced to this fact, and very instructive instances for this may be found in the literature. Typhoid can, therefore, only be exterminated by strict isolation of the patients till the time when, after repeated attempts they are found to be free from typhoid bacilli.

The danger arising from this post-typhoid excretion of bacilli is increased considerably by many cases of individuals, carriers as we know now of the typhoid bacilli, but not showing the clinical symptoms of the typhoid infection. This danger is certainly frequently greater than that menaced by the real typhoid fever. If we consider the immense multiplicity of opportunities that are given to such individuals to infect others (our hands almost constantly show the presence of coli bacilli; in any trade, in any profession, many such possibilities exist), it becomes apparent that endemic contact typhoid represents the real figures in our typhoid statistics. Epidemics are easily differentiated by their disproportion to these figures. Everybody knows that they are always extraordinary occurrences, and that only in such cases is it necessary to scare the public by warnings as to the danger imminent from the use of the water supply. Any epidemic must necessarily be followed by an increase of the ordinary endemic rate.

In another line, as mentioned before, the consideration of typhoid fever has also changed. The experiences of the last few years have made it certain that clinical typhoid is not always typhoid, but that the infections with a number of different organisms make up the totality of

the typhoid cases. That these facts have not found a more general confirmation so far is partly due to the unscientific way in which the agglutination or Widal test is made almost everywhere; the test as made is practically without meaning as to the identification of the specific organism in the given case. Typhoid is a group of diseases initiated by more or less nearly related micro-organisms; the differentiation of the latter is easily possible, and under certain conditions upon this differentiation the character of important sanitary measures in public and private life must depend.

The lesson to be drawn from these remarks is, that the fight against typhoid must be based on the investigations made on the endemic dissemination. Without this typhoid epidemics cannot be avoided.

THE RUNGE MEMORIAL MEETING.

A number of friends of the late Dr. Runge arranged a meeting to give expression to the regard which his work and life had inspired among them. This small group was made up of men engaged in various pursuits of life—physicians, lawyers, teachers and business men. The varied character of this committee typified the wide influence of Dr. Runge's personality. At the meeting itself short talks on the various phases of Dr. Runge's life, his individuality and his work were given, and the final word was devoted to the civic lesson which the story brings out. Such a testimonial is seldom given to medical men and even less than seldom to those who devote their energies to the betterment of civic institutions of which they are in charge. For this reason alone this meeting should be remembered with a certain amount of pride for the impulse, for this meeting came in a large measure from citizens who were not physicians. There is, however, a bitter truth in this thought also, and this touches at the source of much that is bad in the medical institutions of a civic nature in this city, and that is that until the medical profession, or that part of it which is strongest and best, support with enthusiasm those among them who are doing good work in the city hospitals and institutions of a like nature, so long, except in rare instances, will their efforts receive neither recognition nor notice from the public whom they are serving. The civic lesson, brought out in a general way at the meeting, points out the course which must in the future be followed, so that the sacrifice of a good civic servant and a good civic physician may be avoided. The matter is plain enough. The city institutions that have to do with the care of the sick of whatever nature must be removed from the influence of machine politics of either party. A non-partisan board of trustees and a visiting staff, where it is possible to have them. This is the civic lesson translated into terms of medical progress.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

The Sounding and Radiography of the Large Intestines.—SCHULE (*Archiv fuer Verdauungs-Krankheiten*, Vol. x, Part 2.)—For many years investigators have been endeavoring to solve the problem of sounding the colon; during the past few months the agitation of this subject has received a new impetus. As early as 1862, Wachsmuth maintained that under favorable circumstances it is possible to pass a tube, 166-196 cm., long as far as the valve of Bauhin.

Simon carried out a series of investigations on the cadaver a few years later and came to entirely different conclusions. He found that it was sometimes possible to pass the tube into the descending colon, but no further. As a rule the sigmoid flexure formed a figure eight through the pressure exerted, and the tube did not pass beyond the sigmoid.

Leichtenstern, Vaunyn, Boas and Kuhn have come to the same conclusion.

The latter found that the tube was usually halted on its course in the sigmoid and that this portion of the intestine was pushed upwards, thus giving the impression that the tube was passing into the colon.

He believes that through combined manipulation and the careful use of the spiral tube, it is possible to prevent this curving of the sigmoid, and to introduce the tube further into the colon.

The author, who carried out an extended series of investigations, claims that it is not possible to introduce a tube into the colon with any degree of certainty, and he doubts if the living being has ever been catheterized successfully, at any rate there has been no proof of it.

He made a series of radiographs, both from the living and the dead, showing the course and position of the tube in the sigmoid. Very often when the tube seemed to have passed nicely it was completely rolled up in the sigmoid. In some of his experiments the peritoneum was opened and the course of the tube was watched and even controlled. Even in these cases it was almost impossible to pass it into the colon. The series of radiographs presented in this article are very instructive.

The colon tube cannot be used for diagnostic purposes where tumors and stenoses are suspected, for it would be impossible to determine whether the tube was meeting with one of the natural obstructions and obstacles in the sigmoid or an abnormal condition.

As to the therapeutic value of such a procedure, the author believes that practically the same end can be accomplished through rectal enema properly applied. Mosler showed that the fluid introduced into the rectum came out through a fistula in the cecum. He also demonstrated areas of absolute dullness in the cecal region after the injection of large amounts (three to four litres) of water into the rectum.

Boas maintains that the succussion sound obtainable in the cecal region after rectal injections shows the presence of liquid in that region.

The author demonstrates very clearly through his radiographs that fluid injected into the rectum may reach the cecum. He injects 300 to 400 cm. of oil containing a considerable quantity of bismuth in suspension into the rectum of a patient in the knee-elbow position. The radiographs of these cases give such definite outlines of the colon that there can be no doubt as to the course taken by the oil mixture. In all of these cases the ilio-cecal valve proved sufficient, so that no shadow was obtained beyond this point. These pictures not only prove that it is possible to "wash out" the colon through the simple rectal enemata, but also show the position of the transverse colon. In one of these cases enteroptosis is beautifully demonstrated. The method will certainly prove of great value in the determination of the topography of the colon in the living.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Perforating Ulcer of the Stomach.—GUIBAL (*Revue de Chirurgie*, No. 2, 1904).—Four cases are reported, three from the autopsy finding and one from the operating room. In the first three no diagnosis was made, but the fourth was correctly interpreted before the operation, and the life of the patient was saved. Here there was a history of stomach trouble of long standing, with features so characteristic of ulcer, that the acute onset of desperate abdominal symptoms, high up, was to say the least, highly suspicious. The operation which was done eight hours after the onset of symptoms, presented many interesting and unusual features; the stomach was found full and distended, accounted for by the fact that the perforation was high up on the lesser curvature near the cardiac extremity, and every time the viscus was manipulated a little of its contents were simply spilled, so to speak. After suturing the defect the abdomen was drained in a truly wonderful way. In addition to draining the two lumbar regions and that of the stomach out of the original incision, three more incisions were made in the lower abdomen and one in the vagina, through which fluid poured, and through the last of which it continued to escape for six days although there was no such continued drainage from any of the others.

Such extensive destruction of the continuity of the abdominal wall necessitated the patient remaining in bed two months, but she ultimately recovered.

The Post-operative Appearance of Echinococcus Cysts.—MADELUNG (*Mitteilungen aus der Grenzgebieten der Medizin und Chirurgie*, Band xiii, Heft 1).—Articles from the pen of the acknowledged master of the surgery of this subject cannot fail to attract attention. Madelung relates here the first personal experience of his own of secondary growth,

after performing seventy-five echinococcus operations. The patient in question had a cyst removed from the liver at one sitting, and two years later presented himself with two distinct cysts in the skin scar. There can be no doubt that this was due to an accidental infection at the first operation. It is interesting that lengthy suppuration of the sac as well as the antiseptic solutions of all sorts have been ineffective in preventing the return of this parasitic disease, when one might naturally suppose that these, the causal agents, would be killed easily. This experience of Madelung has a direct bearing upon the surgery of intraperitoneal recurrence; it happens that the technique of complete removal of a cyst with immediate suture of the defect, allows of a very short convalescence, but at the time of the operation exposes the patient to a much greater danger of dissemination of the parasites. This is to be especially avoided since secondary growths may occur and animal experiments have shown that they are totally inoperable if so situated.

Acute Post-Operative Decubitus.—VANVERTS (*Bull. et Med. de la Soc. de Chir. de Paris*, Tome xxx, No. 12).—This is said by the author to be a lesion of comparative rarity, and occurs chiefly after operations upon the female pelvic organs. It has also followed symphyseotomy and resection of the sacrum. When it occurs after long compression of the sacral region upon a hard operating table the connection is easily seen, but there is more to it than might at first appear, and Boudron regards it as a trophic disturbance comparable to one following a spinal lesion. The trouble is said to be due to the irritation or destruction of certain nerves within the pelvis and there is propagated along their connections which enervate the superficial tissues, the trophic disturbance which results in decubitus. Infection has been said to play a role in these cases, but no more can be said in this line than has already been known concerning such complications of typhoid and other febrile affections. Infections play their most important role in neglected cases where there is already a decubitus.

Aneurism of the Subclavian.—OBERST (*Beiträge zur klinischen Chirurgia*, Band xli, Helt 2).—By far the most aneurisms of this artery, arise from that portion of it which is between the clavicle and the rib; this being explained by the circumstance that injury to this portion of the vessel is more likely to be serious, since it is prevented by its surroundings from gliding out of the way. Only sixty-seven of these cases have been reported since the beginning of the antiseptic era, though 121 of them had been known up to that time. A very interesting operated case is reported from the Freiberg clinic; there was a complete cure attained by proximal ligature, no radial pulse ever appearing after the ligature was tied, and the tumor gradually continuing to shrink up to the time the patient was last seen, months later. Experience has shown that there is no parallel between the blood supply of the upper and that of the lower extremity; so the danger which is present of gangrene of the leg after ligation of the femoral, does not obtain when the subclavian is treated likewise. In many cases the radial pulse appears immediately or at least soon after ligation of the subclavian and, unfortunately, it is just these cases which are least benefited by the procedure. Most of the cases have

affected the right side, and the mortality which was very high after all sorts of surgical treatment, in the pre-antiseptic era, is now sunken to 22 per cent. The author's conclusion is that central ligation is the normal procedure in these cases, that extirpation of the sac is to be undertaken only under especially favorable circumstances, and that distal ligation is very uncertain as to its results.

Some Observations on the Surgery of the Common Duct of the Liver.—MAYO (*Medical Record*, April 30, 1904).—This eminently practical article, replete as it is with the vast experience of the author, contains many suggestions which can be followed with profit, by every surgeon. Stress is laid upon the fact that most of the stones form in the gall-bladder and that surgery is to be contemplated at a time when they have not yet left that viscus. With the cystic duct permanently closed, the gall-bladder is better out than in and the operative indication is whether or not bile can be made to enter the viscus upon the table; the operation is to be performed from below upward.

Where the bladder contains bile and is not to be removed, provision must be made for drainage onto the skin. Deep stones in the common duct frequently make no symptoms, hence it is imperative to examine the duct at every operation; then if icterus be present the duct must be opened and probed with the finger, else stones may be overlooked.

If dense adhesions be present it may be best to split the bladder and duct clear to the stone, after which the bladder can be removed and the duct sewed up. The reparative power of this duct is unexcelled, according to Mayo, hence all sort of plastic procedures may be practiced upon it without fear.

Another method of dealing with cases, in which removal of the bladder is indicated in the presence of dense adhesions, is to simply skin out the mucous membrane without exposing the patient to the dangers of separating the adhesions. Some doubt as to the possibility of this procedure has been expressed, but the reviewer takes pleasure in adding from personal observation that W. J. Mayo does remove this membrane in one piece and does it in a very short time.

Trophic and Circulatory Troubles of the Skin Due to the Injection of Paraffine.—SEJOUR (*Gazette des Hopitaux*, No. 45, 1904).—Two injections were made into the breast of a young woman, one three weeks after the other. Great pain with swelling of the breast and axillary contents followed the first operation, but subsided. Five days after the second injection trouble commenced. When the patient was seen a month later the skin was high-colored and glistening, with the periphery of the breast looking as though there were varicose veins everywhere, and at one point a soft, almost fluctuating spot. There was no axillary involvement or other manifestation which could be regarded as inflammatory. Upon free incision of the softened area there escaped the softened paraffine which had been injected, but no exudate, as was proven by microscopic examination of the mass. Under the influence of wet dressings, etc., the whole thing cleared up, and the author is under the opinion that some of the paraffine must have been injected into blood vessels and caused thrombosis of them, thus causing all the symptoms.

The Treatment of Pulmonary Tuberculosis by the Direct Injection of Iodoform-Glycerine Into the Lung Tissue.—GESSNER (*Zentralblatt fuer Chirurgie*, No. 16, 1904).—The author uses a 10 per cent. emulsion of the above-mentioned nature, and claims to have seen remarkable results with it. His reasoning proceeds from the fact that iodoform is regarded as a specific against the activity of the tubercle bacillus in joint-affections, especially early in the trouble. His good results have been obtained only in very early cases—*i. e.*, before destructive changes have taken place. The patients are kept in bed four to six weeks, and 5 cm. of the emulsion injected every ten days or two weeks. The only unpleasant symptom which has been noted is the presence of severe pain for some days, due, as he supposes, to the action of the glycerine.

One Hundred Cases of Gastro-Enterostomy for Simple Ulcer of the Stomach and Duodenum.—MOYNIHAN (*Annals of Surgery*, May, 1904).—The average age of these one hundred patients was thirty-five years, and to the author's credit let it be said that he lost but two of them. In fifteen cases hemorrhage was the cause of the operation; and of these, one was lost. Dilatation of the stomach and stretching of the ulcer seems to the author to be the direct cause of the bleeding. The phenomenon has been noted in all the cases upon which the author has operated, being of unusual degree in many of them. Vomiting after the operation occurred in three of these one hundred patients, stopping on the tenth day in one, lasting a year in another, and necessitating a supplementary enterostomy in one at the expiration of fifty-six hours after the original operation. Post-operative pneumonia in these patients is explained by inspiratory infection of material from rotten teeth; hence great care is given to this particular branch of the toilet by our author.

In ninety-two cases the result was all that could have been desired; in the other six, great disturbance was continued in consequence of the persistence of an excess of hydrochloric acid, although this subsided in three.

In two instances the condition was diagnosed as malignant before operation, and in one other it really proved to be malignant, although this was not suspected at the time the man was operated upon.

Encysted Purulent Pleuritis.—VANVERTS and DANCOURT (*Archives Provinciales de Chirurgie*, Tome xiii, No. 3).—After giving all the theoretical knowledge which is common property on the pathology, symptomatology, prognosis, etc., of the interlobular variety, the authors take up the treatment, which is of most interest to us, since it contains the individual element of the authors' own success. In the interlobular variety, expectant treatment with spontaneous rupture into the air-passages has given 77.7 per cent. of cures, while surgical treatment has been successful in but 74 per cent. of cases thus treated. This might at first seem to indicate a waiting policy in all cases, but such is not the case; for the reader must remember the fact that most of the favorable cases are treated medically, while all the hopeless ones are consigned to the knife. Puncture is to be condemned as a therapeutic measure, and free incision only performed.

The Question of Mechanical Injury to the Omentum as a Result of the Trendelenburg Position.—BAKES (*Archiv. für Klin. Chir.*, Band lxxii, Heft 3).—Since Kraske called attention to the dangers of this well-known and much used position, the present interesting observation of the author may be cited as an example sufficiently similar to impress upon the reader the truth of Kraske's statements. The patient, a man fifty-three years of age, earned his living as an acrobat by performing nearly all his tricks while walking on his hands. He suffered from the presence of a tumor in the upper portion of the abdomen, and had been compelled to reduce the amount of food taken at a time to the smallest possible minimum. At the operation his omentum was found rolled up around the transverse colon and stomach, as well as attached to the liver across its whole length. Secondary shrinkage of the colon had taken place till the stomach was greatly reduced in size thereby. After the adhesions were divided and the viscera restored to their natural positions, the man's symptoms all disappeared and his recovery was rapid.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

Lumbar Puncture in Uremia.—SEIFFERT (*Muench. med. Wochenschr.*, 1904, No. 10).—In the course of a severe epidemic of scarlet fever characterized by an unusual frequency of nephritis and many deaths from uremia, the writer had occasion to study the effect of lumbar puncture upon the latter. He noticed that every such case, upon which this procedure was practiced, ended in recovery. In one case, the effect of lumbar puncture was particularly striking. The patient was a school boy who had recently had scarlet fever followed by a nephritis with extreme and general anasarca, and who was brought into the hospital comatose and breathing stertorously. Half an hour after lumbar puncture had been performed, the patient had become completely conscious, sat up in bed and asked for food. The next day another paroxysm set in, which again yielded to the puncture, whereupon an undisturbed convalescence followed.

As the writer's observations were confined to uremia on a scarlatinal basis, the question as to the effect of lumbar puncture upon uremia, due to other forms of nephritis, remains open.

The Treatment of Gastric Hyperacidity.—L. FISCHL (*Prag. med. Wochenschr.*, 1903, No. 10-12; *Zeitschr. f. Diätet. u. Phys. Therapie*, 1904, No. 2).—Pawlow's treatment of hyperacidity by means of olive oil has received additional support through Fischl's extensive observations. In a series of nineteen cases, in which the total acidity of the gastric contents, after a test-breakfast, varied from 70 to 114 and the free HCl from 62 to 102, he used a vigorous oil treatment. During the first week of treatment, the patients were put on a strict

hyperacidity diet (bland and poor in carbohydrates) and took, in the way of drugs, either alkalies or atropine. Beginning with the second week this medication was stopped and, the diet being continued, the patients were put on pure olive oil, one tablespoonful in the evening and three tablespoonfuls before breakfast. The dose of the oil was gradually increased to 50 gm. in the evening and 150 gm. before breakfast. This regimen was continued for three weeks; for one week longer the diet was persisted in without the administration of the oil, whereupon the patient returned to his usual way of living. During the entire course of treatment weekly analysis of the gastric contents were made in all cases. Only those were reported in which the patients remained under observation at least three months.

In six cases the cure was complete and permanent, both objectively and subjectively. In three cases, after a temporary improvement, all the symptoms of hyperacidity reappeared when the patients resumed their ordinary diet. In six cases, in spite of all care, it was found impossible to establish a tolerance for the oil on account of the resulting vomiting, eructation or anorexia. Finally, four patients who took the oil readily, showed at no time any improvement in their condition. These results, while perhaps not astonishingly good, are still such, in view of the unsatisfactory results obtained in the treatment of hyperacidity by other methods, as to merit attention. Where the olive oil is not well borne by the patients, the writer suggests replacing it by milk fat—one half pint of cream and one and a half pints of rich milk to be taken daily. The writer prefers milk modified according to Dungert's method (the so-called "pegnin-milk"). Those cases that resisted the treatment with olive oil were found also not amenable to the milk treatment. In seven cases, however, in which the olive oil cure had to be interrupted on account of the resulting vomiting, etc., the milk cure produced satisfactory results.

The Digestibility of Peas Prepared with Hard Water.—RICHTER (*Archiv f. Hygiene*, 1903, vol. 46, No. 3; *Zeitschr. Diätet. u. Phys. Therapie*, 1904, No. 2).—It has long been known that water rich in lime or magnesium salts (so-called "hard" water) is unsuitable for the boiling of certain foods such as vegetables, tea, coffee, etc. The cause of this observation has been sought in an investigation undertaken in Prof. Rubner's laboratory with special regard to peas. It was found that when prepared with hard water, small hard fragments of the vegetable were formed which were insoluble in the digestive fluids and which appeared unaltered in the stools. They not only escaped utilization in the economy, but on account of the earthy-albuminates and earthy-soaps they contained acted as irritants, producing flatulence, colic with diarrhea and a foul-smelling stool.

The Treatment of Subacute Gastritis.—HORATIO C. WOOD, JR. (*The Therapeutic Review*, January, 1904).—In the care of subacute gastritis our treatment must be along three distinct lines, each one of which is of great importance if we wish to obtain the best results. These are regularity in the patient's habits, a proper diet and the use of drugs.

HABITS.—Besides regularity in the time of eating, the patient must be

impressed with the necessity of thorough mastication. The value of chewing the food depends not solely, as was formerly believed, upon the mechanical effects of the minute subdivision of the mass, but also on the consequent complete ensalivation. Salivary digestion in the stomach plays a part hardly secondary to that of peptic digestion. Water should be avoided during the mealtime as much as possible; not only does the fluid dilute the digestive secretions of the stomach, but it enables one to swallow the food without sufficient mastication.

DIET.—Of the starchy foods those that, like toast, stale or “pulled” bread, require considerable mastication are to be preferred. Sugar and fats had best be reduced to a minimum. Of the albuminous foods, well cooked mutton or beef, or the fish foods, such as rock fish and oysters prepared in various ways, are all of them generally permissible. Pork, veal and rich game foods should be scrupulously avoided.

DRUGS.—In the first place it is to be noted that stimulation is closely allied to irritation and that where we have a true inflammatory condition, the stimulant remedies are always contra-indicated. These include both the bitter tonics and the still more actively stimulating aromatics. In cases in which there is marked failure in the secretion of hydrochloric acid this substance may frequently be used, not only on account of its action as a digestant, but also for its antiseptic influence, with good effect. Perhaps even more efficient than the hydrochloric acid is the nitrohydrochloric acid, which should be prescribed undiluted, since it rapidly deteriorates after dilution. Of this, five to ten drops may be given in half a tumbler of water after meals. Of the artificial digestants, such as pepsin, pancreatin and the various vegetable ferments, the best that can be said of them is that they are comparatively harmless.

The one drug, which in the writers’ experience, has proved of the most value in the treatment of these cases is the bicarbonate of soda. It neutralizes the lactic acid, if present, thus relieving the distressing pyrosis, it enables the salivary ferment to act by rendering the gastric contents alkaline, and finally it has been abundantly proven to be one of the most effective stimulants of the secretion of hydrochloric acid. It is best given before meals. Very frequently the addition of a sedative to the mucous membrane, such as the insoluble salts of bismuth, has a very beneficial effect upon the inflamed mucous membrane. A prescription which has given the author good results when there is much irritation is:

R	Bismuth. subnitr	5i (4 gm.)
	Sodii bicarb	3iii (12 gm.)
	Acid. carbolic.....	gr. xv (1 gm.)
	Spirit. menth. pip	m. xx (1.3 gm.)
	Mucilag. acaciæ ..	q. s. ad f. 3ii (60 c.c.)
M.	et ft. emulsio.	
S.	Teaspoonful before each meal.	

By virtue of its antiseptic action and its astringent effect upon the inflamed gastric mucous membrane, silver nitrate is frequently valuable in gastritis. To get the best results from this drug it is necessary to cleanse the gastric mucous membrane as thoroughly as possible. A mode of treatment, which has often given good results where lavage seemed undesirable, is to have the patient drink a tumblerful of tepid or

warm water in which have been dissolved three to six soda mint tablets, and fifteen minutes later follow this by a pill consisting of:

R	Argenti nitratis	gr. $\frac{1}{4}$
	Extract. hyoseyami	gr. $\frac{1}{2}$
	M. S. One such pill an hour before meals.	

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Mutation of Generation and Host in Trypanosoma and Spirochæte.—FRITZ SCHAUDINN (*Arbeit. aus dem Kaiserl. Gesundheitsamt*, vol. xx, Heft 3, 1904).—What must be considered as the most important advance in our knowledge of protozoic life during the last decades, is the result of work done by Schaudinn on the blood parasites of a little bird belonging to the order of owls. Although the paper only gives, in a preliminary way, the results obtained, their entirety is so remarkable and so full of weight for an endless number of scientific, and even practical problems, that it bids fair to inaugurate a new era in the investigation of protozoic life and of its relations to other organisms. To attempt a review of the author's publication would occupy too much space in this journal, and, besides, his paper is, as said, only an announcement of the full report that is to be made later. A short review would do injustice to the paper; it ought to be read carefully by any man interested in the subject and working in biologic lines. The new points brought out by Schaudinn may hurriedly be indicated. In investigating the owl parasites (two different forms) he was able to follow their course of development completely from stage to stage and from one host into the other. The series here demonstrated is by far more complete, as we have it for other hemosporidia, for instance, the parasite of malaria. It is shown that the sporozoite formation does not lead to identical products, but that the latter are differentiated into three forms, indifferent, male and female. Formed in the body of the mosquito they behave differently, the indifferent ones multiplying while the males disappear. The females, however, after a period of rest are able to produce again all of the three forms by a process of parthenogenesis, described in the minutest details.

Thus in the infected mosquito repeated accumulations of parasites appear, that by their bite are transmitted to the endogenous host, the owl. The latter receives during the bite all three forms; the males soon disappear, the indifferent parasites multiply in the well known way by longitudinal fission, but the females add to their number by parthenogenesis and a renewed production of all of the three differentiations. The nuclear phenomena obtaining in the divisions leading to the formation of the latter are very complicated, and do not allow of a short description; that in the production of males and females, totally opposite processes are seen, may only be shortly mentioned. All of these forms of the owl parasite appear in the shape of a trypanosoma. Arrived in the

blood of the bird they attach themselves to the blood corpuscles, remain so for awhile (in periods of twenty-four hours) to again become free. After the normal size is reached they penetrate into the corpuscles, to form here the well-known macro- and micro-gametocytes of *Halteridium*. *Trypanosoma* is, therefore, nothing but a stage of the development of such a sporozoon. Whether the *trypanosoma* species of animal and human diseases, that lately have held the attention of so many observers, will, on closer investigation, show similar relations is possible; but it may be that they are species that in a retrogressive way have become indifferent.

A sketch cannot give an idea of the manifold fascinating and instructive details that were brought out by the author. They will have a revolutionizing effect on many questions of cytologic as well as biologic and physiologic nature.

Observing from this paper into what details an investigator has to go in order to establish the cycle of development of a parasite, and so to give it a right to exist in science as a fact, the multifarious bickerings with sporozoic parasites in human diseases appear in their proper light. Even for malaria our knowledge is as yet very incomplete, there are large chasms in it; Schaudinn's work will help fill them. There are two points in this direction that cannot be neglected and that Schaudinn has firmly established. The first concerns the explanation of relapses in cases of malaria, where for a long time only the sexual forms had been found in the blood. Schaudinn has found analogous phenomena with the owl parasite, where he could demonstrate that macro-gametes by the process of parthenogenesis could give rise to new generations. For the tropical malaria parasite he suggests the same conditions, and, in fact, reports that in one case he has already directly observed the phenomenon. Certain stages of this parasite appear also in typical *trypanosoma* form.

The other point touches Koch's theory, that malaria from one year to the other can only be propagated by parasites hibernating in the body of malaria patients. In the owl parasites Schaudinn has seen that an infection of the ovaries of the mosquito not infrequently occurs, that the parasite penetrates into the eggs, is present in the larvæ in a quiescent condition, until with the change to the imago they begin their cycle of development afresh. There is no reason to assume that the same does not obtain for the malarial organisms also. The author mentions that investigations in this direction justify the assumption that it is so.

A very entrancing chapter of the paper, and one that admirably proves the ingenuity of the author in experimental work, is the one devoted to the anatomy of the mosquito, especially of its digestive and suctorial organs, and the application of this study to clear up the way the parasites take from the time of ingestion to the time where they are transferred to the endogenous host by the bite. The chapter is full of fascinating details, but does not lend itself to a short review. Schaudinn's paper ought to be read widely for the dissemination of knowledge of protozoic life, and for its instructive character as to the carrying out of work in this line.

The Relations Between the Blood Vessels and the Cells of the Suprarenals.—LYDIA FELICINE (*Arch. f. Mikrosk. Anatomie*, vol. 63, Heft 2).—The suprarenals of mice, rats, guinea pigs, rabbits and human beings were examined. Everywhere the cortex could be differentiated into three layers. Between cortex and medulla pronounced morphologic and physiologic differences exist. The cortex serves the function of resorption exclusively, while the medulla forms a typical glandular structure with internal secretion. The suprarenal has two different functions: the detoxication of the organism and the increase of the blood pressure. The former can only be provided for by the cortex, while the increase of blood pressure altogether depends upon the medulla. These conclusions were reached in the first line by exceedingly exact and ingenious histologic investigation of the glands of the above named animals. As details would lead too far, it may be said that the author succeeded in showing the following two points: The cortical cells are in such a connection with arterial capillaries (intracellular processes of the capillaries, interruption of the continuity of the endothelial lining, etc.) that an excretion from them cannot be assumed. It can be directly shown that by the arterial circulation small particles introduced into it are carried by the current into the cortical cells. The arrangement of the cells of the medulla, however, and their relation to the venous vessels allow only of assuming an excretion into the latter. These morphologic deductions are confirmed by late experiments on the suprarenals of ganoid fishes (sharks), in which medulla and cortex appear as separate organs. Of these, only the medulla has the adrenalin effect. The paper is very suggestive, and may give an impetus to a similar scrutinizing investigation of other glands with so-called internal secretion.

About the Fight Against Tuberculosis.—C. FLUEGGE (*Deutsch. Medic. Woch.*, 1904; No. 8).—Fluegge opposes the views promulgated by Behring in a manner almost identical to the expressions given in a previous number of this journal by the reviewer. We cannot agree that the importance of inhalation-tuberculosis is underestimated. Even if inhaled bacilli do not directly set up a pulmonary tuberculous process, they are able to infect by the route of the lymphatic organs. For practical purposes hygiene has no reason to abandon the methods so far used to prevent the inhalation of bacilli. If it should prove true that infection during infancy is as frequent as Behring asserts, we would simply have to increase our watchfulness against the inhalation during this age, for infection through inhalation of tubercle bacilli is much more to be feared than their ingestion by infected milk. Should, however, the milk prove to be dangerous, which is still very doubtful, it would be much more sensible to kill the bacilli by boiling than to try and preserve the bactericidal power of the milk by adding formalin. Fluegge expatiates on the so far absolutely unestablished and unproven assertions of Behring as to the peculiar qualities of milk that are destroyed by preservation and by boiling. He furthermore suggests that it would be much more probable that any such substances present in milk would be to the greatest extent arrested by the saprophytic bacterial flora of the intestine. The high infant mortality must not be ascribed to boiled milk; only the poorer classes, and they only during the hot season, are affected on ac-

count of the greater difficulties in handling the boiled milk properly. Fluegge thinks that it would be a difficult task to control the formalinization of milk, and that it would unnecessarily increase the price for the poor.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

The Results of the Fight Against Cancer of the Uterus in East Prussia.—G. WINTER, Professor of Gynecology, University of Königsberg (*Zentralblatt f. Gynäk.*, No. 14, 1904).—To Winter belongs the credit for a dictum which today is generally accepted by the profession the world over, namely: that not more radical methods, but solely early diagnosis, can promise to improve the lasting results of the operative treatment for uterine cancer.

In a most interesting monograph ("The Fight Against Uterine Carcinoma," published by F. Enke, Stuttgart, 1904), Winter dwelt upon the various obstacles commonly met with in the early diagnosis of and early operation upon these cases, and submitted much valuable advice as how to overcome these obstacles.

Backed by his official position as Professor of the University, Winter has endeavored to transfer into practice his theoretical suggestions, and in East Prussia, in a most methodical way, has waged a war against uterine cancer. He secured the help of the physicians by applying to the district physicians, he appealed to the trained midwives, and to the public at large by specially written articles, which were widely distributed by means of the daily newspapers. This systematical agitation began December, 1902, and just one year afterward Winter began to estimate the results of this propaganda. The above-mentioned article in the *Zentralblatt* gives a tabulated survey of these results, and certainly removes every possible doubt regarding the feasibility of the author's suggestions.

1. *Effect Upon Physicians.*—Winter insists upon a careful vaginal examination of all doubtful or suspicious cases.

While the clinical records of the carcinoma patients observed from 1898 to 1902 show that 14 per cent. of the physicians who had attended these cases had failed to make any internal examination, of the forty-five cases in 1903 who had consulted physicians previous to their admission to the hospital, only five (11 per cent.) had not been examined at the time of their first consultation. But even in these five cases acceptable explanations could be found for this omission. One patient complained only of diarrhea; another only of bladder symptoms, for which she was referred to a specialist, who made the proper diagnosis; a third patient was treated by a Homeopath; the fourth was examined at the time of the second consultation, when the diagnosis was made, and the fifth patient offered, apparently, only the symptoms of a simple endometritis.

The second desideratum of Winter is the early recognition of carcinoma by means of microscopical examination. The appeal resulted in fifty-three specimens of curettings being sent to the university for investigation, in several of which carcinoma was detected. In only two cases physicians must be blamed for negligence in this respect, one treating a beginning cervix carcinoma for five weeks as an erosion.

2. *Effect Upon Midwives.*—Midwives are urged by Winter to send every patient with suspicious symptoms immediately to a physician.

Out of the eighty-four cancer patients observed in 1903, eight had first consulted midwives; three cases were, immediately after the first examination, three other cases without any examination, referred to a physician; in one case only a midwife continued to treat a patient without an internal examination. The comparison with conditions in preceding years is striking. While the percentage of negligent midwives previously had been 54, it sank suddenly to 14 per cent. in 1903.

3. *Effect Upon Quacks.*—It so happened that none of the eighty-four patients of the year 1903 had consulted a quack. Nevertheless, the danger of the quack in delaying the proper diagnosis should not be disregarded.

4. *Effect Upon the Public in General.*—Naturally indolence on the part of the patients, ignorance concerning the symptoms, false modesty, fear and lack of either time or money, are among the main causes for dangerous delay in establishing the diagnosis and instituting proper treatment.

Winter accepted the time which had elapsed between the appearance of the first symptoms and the first consultation of a physician on the one hand, and the time between the consultation and the operation on the other hand, as fairly indicating the effect of his endeavors to propagate a better understanding of the first symptoms and the dangers of uterine cancer.

Physicians were consulted after the appearance of symptoms:

Within the first month in 1903, by 22 per cent.; in preceding years by 14 per cent. of all patients; after first month in 1903, by 35 per cent.; in preceding years by 18 per cent.; after three months in 1903, by 33 per cent.; in preceding years, by 26 per cent.; after six months in 1903, by 5 per cent.; in preceding years, by 12 per cent.; after nine months in 1903, by 5 per cent.; in preceding years, by 18 per cent.; after twelve months in 1903, by 0; in preceding years, by 12 per cent.

The time which had elapsed between first consultation and operation was up to eight days in 1903, 78 per cent.; in preceding years, 63 per cent.; up to two weeks in 1903, 12 per cent.; in preceding years, 15 per cent., a. s. f.: up to three months in 1903, 0; in preceding years, 5 per cent.

A few examples are cited which very instructively demonstrate the practical value of these pamphlets and articles.

1. Patient had symptoms for the last half year. On January 4th the mother read an article about carcinoma in the morning paper, and at once sends her daughter to the hospital.

2. Patient had symptoms for two months. She consults a physician who advises her to go to the hospital. She refuses to do so, but soon afterward she is easily persuaded by a woman friend who has read an article in the paper.

3. A patient has read the article which had appeared in January. In June of the same year she suffers from irregular hemorrhages. Realizing the importance of such a symptom from her reading, she immediately consults a physician who diagnosticates carcinoma in its incipient stage.

4. Cancer symptoms exist for two and one-half weeks. The husband of the patient, who has read one of the articles on cancer, insists upon the consultation of a physician.

5. Patient comes to the physician at the very beginning of the cancer symptoms, which are known to her from reading such a pamphlet on cancer.

The eminent practical value of this propaganda among the laity is proved by two facts:

In 1903, 57 per cent. of the cancer patients have consulted a physician within the first three months; in preceding years only 32 per cent.

In 1903, 90 per cent. have been operated upon within two weeks after the first consultation; in preceding years only 78 per cent.

5. *Operability of Carcinoma.*—The sum total of the effect of Winter's fight must naturally become apparent in an increase in the percentage of those cases that are still operable at the time when the diagnosis of carcinoma is made. The percentage of operability, for obvious reasons, can be calculated for a special method of operation only, since naturally widely different limits for the operability are drawn for the various operations in vogue.

The figures calculated by Winter refer to vaginal hysterectomy, combined, if necessary, with the Schuchardt incision.

The operability increased in the clinic from 71 per cent. in 1902 to 82 per cent. in 1903. In the hands of all specialists operating in East Prussia from 52 per cent. in 1902 to 65 per cent. in 1903, so that it can be said that within one year the operability has risen in East Prussia from 62 per cent. to 74 per cent.

Winter concludes from these observations that the present results are still far from being entirely satisfactory; that it seems, however, permissible to assume that this mode of propagating a correct understanding of the symptomatology and the danger of uterine carcinoma is feasible, and is capable of doing much good.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Nephrolithiasis in Childhood.—MONSSEAUX (*Rev. Mens. des Mal. de l'Enf.*, May, 1904), analyzes seventy-seven cases of nephrolithiasis, fifty-two of which were in children under fifteen, while the remainder occurred in adults, who had, however, shown the symptoms since childhood.

Fifty-one cases were males (66 per cent.), twenty-six females. With reference to etiology, the author thinks that heredity certainly plays a

role. Of direct exciting factors, excessive ingestion of nitrogenous foods, insufficiency or perversion of metabolic changes, and insufficiency of elimination as a result of too great concentration of the urine, are considered as important.

In the child, as in the adult, the gravel is uric acid pure (fifty-six cases), or consists of oxalates or phosphates, in the majority of the cases.

In most cases the first symptoms noted were pains of various kinds. These pains are either continuous or intermittent, they may be spontaneous or brought about by excessive exertion. In three of the cases the pains were of such a nature as to suggest Pott's disease, though this diagnosis was subsequently disproved in each case. Typical renal colic was noted in twenty-five cases. Most of these cases were of the uric acid variety. The picture of the attacks corresponds to that seen in adult life. Hematuria was noted in eight cases, usually accompanying the attacks of colic.

Difficulty in micturition is a common symptom. Frequent, painful urination, with the voiding of only small quantities each time, is a common symptom. This urine often contains gravel, but not much pus as a rule. Vesical hemorrhage is rare. Examination of the urine shows that it is usually of high specific gravity, markedly acid, with increase of urea and uric acid, and on microscopic examination showing crystals of uric acid, oxalate of lime, amorphous urates, and usually red blood cells.

Complications are not usually seen; even septic infection is not often found.

Association with other symptoms of so-called arthritism is, however, very frequent. Digestive disturbances, especially recurrent attacks of vomiting and diarrhea, are common.

The diagnosis, prognosis and treatment present nothing peculiar in childhood.

Cardio-Tubercular Cirrhosis in Childhood.—LANOS (*These de Paris*, 1904) says that the symptoms of this condition are usually hepatic. While the disease is one of the heart, the symptoms point to disease of the liver. [As is well known, the condition is usually due to tubercular pericarditis.—ED.]

The diagnosis rests on the following triad of symptoms, which are rarely missing: cyanosis, embryocardia, and absence of the precordial impulse to sight and touch. Other symptoms and signs which mark the progress of the affection are: smallness of the pulse, dyspnea on effort, enlargement of the liver, ascites, edemas, collateral venous circulation, polycythemia, and absolute asystole.

The prognosis (always grave) is, however, not necessarily fatal, because the course of the malady is not always progressive, and there are often remissions of greater or less duration. There have even been cases where a cure has been shown; but even in these (isolated) cases the patients are always under-developed, pictures of "infantilism," especially if the origin of the disease date back to the period of adolescence.

The treatment is a purely hygienic one, and has special relation to the antecedent tuberculosis.

The Reduction of the Tubercular Death Rate in Children in New York City.—BIGGS (*Arch. of Ped.*, May, 1904) says that there can be no question that the factor of heredity in tuberculosis, the frequent recurrence of cases in the same and succeeding generations, is largely to be explained through house infection. Special family susceptibility does, however, undoubtedly exist. He points out that where there is a case of tuberculosis in a family, an infant is always seriously exposed to the danger of contagion. There is exposure through the air, through the direct contact with the sick person. When the child creeps the danger is greater, for there is often infective sputum on the floor, and there is also the chance of inhaling bacilli from the dust on the floors. The author does not discuss the question of infection through food, especially milk. But he believes that in tenement houses the infant is more exposed to infection than any other member of the family, and this largely as a result of house infection. Exposure outside the family is hardly a factor before the age of five.

If this theory is correct, the author reasons that the preventive measures in the way of isolation and disinfection, which have been instituted in New York for the past ten or twelve years, should show some reduction in the mortality from tuberculosis in the earlier years of life.

He has, therefore, collected the statistics showing the deaths from pulmonary tuberculosis and from tubercular meningitis in the last twenty years. These data (which, unfortunately, cannot be given here in full) show that during the ten-year period ending in 1902, there had been a decrease of more than 40 per cent. in the death rate from pulmonary tuberculosis and tubercular meningitis in children under fifteen years of age, and that during a period of twenty years the decrease has considerably exceeded 50 per cent. In 1892 the death rate from these causes was 5.0 per 10,000, and in 1902 it was 2.96.

With an extension of the regulations, with wider information as to the nature of the disease, still further reduction of the death rate in early life is to be looked for. The author sees in these data great encouragement in the crusade against tuberculosis.

Tonsillitis a Cause of Acute Nephritis.—MORSE (*Arch. of Ped.*, May, 1904) says that while the importance of tonsillitis as a cause of acute endocarditis has been clearly recognized of late, little attention has been paid to it as a factor in the production of acute nephritis. Inasmuch as tonsillitis is due to bacterial infection, most often streptococcus, it seems reasonable that, as in the case of scarlet fever, such infection should occasionally produce an acute nephritis. He reports four cases (two in adults and two in children) of acute nephritis following tonsillitis, where other cause for the renal trouble could be excluded, and where long-standing disease of the kidneys could also be excluded. There was no evidence of scarlet fever in any of the cases. He believes that acute nephritis is more often due to tonsillitis than is commonly supposed. In many cases of acute nephritis considered primary, the infection enters through the tonsils, but the local manifestations are very mild, and are thus overlooked.

He emphasizes the importance of careful examination of the heart and urine in tonsillitis, such examinations to be kept up for a time during convalescence.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

The Ultimate Results of the Bloodless Replacements of Congenitally Dislocated Hips.—JOHN RIDLON, M. D., Chicago (*The Journal of the American Medical Association*, April 16 and 23, 1904).—The motive of these two papers is to give a straightforward presentation of the facts, and to correct certain delusions and false impressions that have crept into the minds of medical men. The newspapers raised this method of treatment far above its deserts, and now are disposed to cast it down far below its deserts; this serious mistake the writer wishes to obviate.

Dr. Ridlon gives a complete report of all the hips he ever treated. Dividing them into four periods, he characterizes them as "The period of indifference; the period of interest; the period of delirium, and 'the morning after,' when things look so differently."

One hundred and forty cases are reported, twenty-six of which Lorenz operated upon. The results altogether fall below what is claimed by Lorenz, and for this difference Dr. Ridlon cannot account. He believes the method of Lorenz to be the best operation, and the only one to be considered in bilateral cases. He places the perfectly stable, anatomical replacements at 10 per cent.; transpositions, 60 per cent.; failures, 30 per cent. The age for operation and the dangers of operation are thoroughly considered.

In the discussion which followed the reading of these papers before the New York Academy of Medicine, Section on Orthopedics, Drs. Gibney, Bradford, Wilson, Whitman, Jacobi and Shaffer agreed with the writer in the principal points of his paper.

A Case of Spastic Paralysis Treated by Transplantation of Hamstring Tendons; Also a Case of Contracture of Hamstring Muscles, of Spastic Origin, Relieved by Elongation of Hamstring Tendons.—BERNARD BARTOW, M. D., Buffalo, N. Y. (*The Amer. Journal of Orthopedic Surgery*, February, 1904).—*Case 1.*—A boy of eleven years, with a history of forceps delivery at birth, presented at the age of four marked spastic contractures general in distribution; he improved after his seventh year so that he could maintain a sitting posture and could drag himself about on the floor. His mental condition was undeveloped. At the time of operation the spastic condition was limited to the hamstring group, the legs being flexed, and standing without a support impossible. The operation consisted in dividing the semitendinosus, semimembranosus and gracilis from their insertions, uniting them in a cord, and planting them in the aponeurosis above the patella. The biceps was treated in like manner. After six months' time the patient was able to stand with the aid of a cane only, and his mental condition showed marked improvement.

Case 2.—A boy of fifteen years presented a bent knee posture of twenty degrees, due to shortening of the hamstring group, the remains

of spasticity that had been general, but had gradually improved. He had awkwardness of gait and fatigue from moderate efforts at walking and standing, and spasticity was excited in other muscles by efforts at locomotion. The hamstring tendons were elongated in their sheaths by open operation; the iliotibial band was freely divided. Improvement in gait and posture quickly followed this operation.

The cuts accompanying this paper show the marked improvement claimed by the writer.

Infectious Arthritis.—JOEL E. GOLDTHWAIT, Boston (*Boston Medical and Surgical Journal*, April 7, 1904).—"The term infectious arthritis is used to designate a joint-disease resulting from the presence within the body of some infectious organism, the symptoms being due either to the presence of the organism itself within the joint, or to some toxine produced by that organism in some other part of the body." The writer in this paper throws much light on many cases of so-called rheumatism. Where the typhoid bacillus, the pneumococcus, the streptococcus, the staphylococcus, the influenza bacillus, the dysenteric bacillus, and last, but not least, the gonococcus may produce definite joint-symptoms and joint-changes, it seems necessary that the true cause of the trouble should be sought and recognized, rather than call the whole by one name and treat the various conditions as one thing. Photographs and diagrams showing the joint-changes are inserted, and eighteen cases are given in detail. The subject is treated in a thorough manner.

The Wiring of Bone for Recent and Ununited Fracture, with Report of Cases.—STEWART LEROY MCCURDY, M. D., Pittsburg (*New York Medical Journal* and *Philadelphia Medical Journal*, April 9, 1904).—The chief value of this article is set forth in the conclusions, which are:

1. Wire the bone while the ends remain down in their normal position, thus preserving the nutrition, preventing necrosis and guaranteeing union.

2. Use iron wire instead of silver wire.

3. Anchor the bones to external bridge work to hold them in position during repair.

4. An instrument is presented to cut the ends of the bones in the depth of the wound.

The illustrations accompanying this article are instructive; so much so, in fact, that the text seems supplementary.

A Study of the Anatomy, Pathology and Etiology of Scoliosis; Also Presenting the Scoliotone, an Apparatus for Elongating and Lessening the Rotation of the Spine in Lateral Curvature.—COMPTON RIELY, M. D., Baltimore (*Journal of Am. Med. Ass.*, April 2, 1904).—The literature on the subject is reviewed briefly to show that little or no attention has been paid heretofore to a distortion of the pelvis, which the writer shows by measurements to be present. This important point is held by Dr. Riely to be of prime significance in the etiology of all cases except those due to paralysis, empyema, etc. This view is a very interesting one, as it explains in part the belief that scoliosis is due to faulty atti-

tude. Inequality of length in the legs should also be corrected, as this also is evidently of etiological importance.

The scoliotone is a pressure apparatus on the Beely order, differing, however, in that the thorax and pelvis are fixed, while in Beely's machine the patient rests on feet and elbows.

The Treatment Following the Bloodless Reduction of Congenital Hip Dislocation.—DEXTER D. ASHLEY, M. D., New York, and FREDERICH MUELLER, M. D., Chicago (*New York and Philadelphia Medical Journal*, April 23, 1904).—This paper, which makes its appearance one year and a half after the tour of Dr. Lorenz through this country, is of little value to those who were intrusted with the care of the patients operated upon by him. It is intended to be the post-operative instructions that Dr. Lorenz himself would give to those looking after his work. As such it is of value in a reflective way. The thought naturally arises, why did not the gentlemen, writers of this paper, write it a year ago, when its suggestions would have been of the greatest value.

The paper, which is to be followed by another later, deals entirely with the case after the operation is done and the cast is applied. It is full of valuable suggestions, both as to exercises and the comfort of the patient. These suggestions are of greatest interest where an anatomical reposition has not been accomplished, but where the femoral head is anterior.

When the cast is removed the possible positions and the thing to do for each is schematically divided into two classes, viz.: Group A, normal positions of the head; Group B, abnormal positions of the head. "It is easily apparent that these different conditions must be met by a varied aftertreatment. Even secondary operations with anæsthesia may become necessary."

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

On the Value of the Examination of the Cerebro-Spinal Fluid in the Diagnosis of Nervous and Mental Disease.—SIEMERLIG (*Berl. Klin. Woch.*, No. 21, 1904).—The rapid appearance of papers of this sort in the German journals shows the interest which this new diagnostic procedure is arousing. Meyer's study of thirty-five cases showed that the method had a very great value. This paper is a continuation of this work, with the addition of the examination of the physical and chemical characteristics. The author draws attention to the importance of the color of the fluid, and to the importance of the chemical examination for albumen, and especially to the peculiar reaction first described by Guillain and Parant. The material upon which this paper is based consisted of thirty-eight cases of dementia paralytica and fifteen cases of various nervous diseases. The following conclusions are noted: The cytodiagnosis as well as the chemical and physical characteristics of the cerebro-spinal

fluid enriches the diagnostic methods very considerably. A marked lympho-cytosis points to a meningeal irritative process. A meningitic process with cellular exudates is probably present. The lympho-cytosis is usually combined with an increase in the amount of albumen after the addition of sulphate of magnesia. The study of the color can, in certain instances of hemorrhage, give information in regard to the origin of the process.

Juvenile Tabes.—GORDON (*New York Med. Journal*, May 7, 1904).—This is a contribution to the subject of juvenile tabes, and adds to the growing literature on this variety of tabes. The case is that of a girl seventeen years old, with subjective sensory disturbances, girdle sensations, disturbances in the deep reflexes and of the sphincter of the bladder, who presents at the same time an old, complete brachial monoplegia, probably of poliomyelitic origin. The case illustrates the following points: (1) A rare example of tabetic manifestations developed in a patient who shows symptoms of an acute anterior poliomyelitis of infancy. (2) It puts on record a new case of juvenile tabes. (3) It also shows that hereditary syphilitic tabes and acquired tabes are identical in their symptomatology.

The Cyto Diagnosis of Tabes and Dementia Paralytica.—FRENKEL (*Monatschrift für Psychiatric and Neurologie*, May, 1904).—Attention is called in this paper to the value of the examination of the spinal fluid in cases of early tabes and dementia paralytica where the clinical symptoms are not clear enough to make a definite diagnosis. The author describes in detail the technique of the examination as originated by Vidal. To illustrate the value of this procedure a number of cases are described. For example, a case of tabes in which the diagnosis was in doubt until the examination of the spinal fluid showed the presence of the typical findings—that is, an increase of lymphocytes.

The Diagnostic Value of the Plantar Reflex.—STANLEY BARNES (*Review of Neurology and Psychiatry*, May, 1904).—This is one of the most valuable contributions to this subject that has as yet appeared. It not only is based upon a vast material, 2,500 cases, but its conclusions are strengthened in those cases where there was some doubt by the post-mortem examination in one hundred and fifty, in which the disease proved fatal. In this way some of the most remarkable data in respect, especially to the unilateral presence of the reflex is explained. No one can be in a position to speak with any exactness in respect to this phenomenon without a careful reading of this paper. The conclusions of this remarkable study are as follows: (1) In adults, an extensor response (Babinski's) sign never occurs in health; it is always indicative of organic disease. The pyramidal system need not be so injured as to show post-mortem lesions. An extensor response may be produced in any condition which greatly raises intracranial pressure, even if this condition does not cause a demonstrable lesion of the pyramidal system. For instance, an extensor response may occur in hydrocephalus, meningitis, cerebral tumor, etc., in such instances the extensor response usually occurs in comatose or semicomatose states. An extensor response also

occurs in convulsive conditions of organic conditions in epilepsy, uremia, infantile convulsions, strychnine poisoning, etc. (2) A reflex response is the normal plantar reflex of the adult in pyramidal disease in acute conditions if only a small amount of the pyramidal influx is removed by an organic cause; in chronic cases even when a large amount of the pyramidal influx is removed. (3) Under certain conditions, it is sometimes possible to obtain in the extended position of the patient an extensor response and in another a flexor response from the same foot. This may be termed the position of pyramidal equilibrium. (4) The position of pyramidal equilibrium is lower in the scale of pyramidal disease in recent and acute cases where the disease is of long standing or of very chronic origin. (5) There is a constant tendency in the adult for an extensor response to give way to a flexor response; the more chronic the case and the less severe the pyramidal lesion, the more rapidly will a flexor response be re-established, even though the limb remains severely paralyzed and contracted. (6) The infantile response of children under the age of two years is dependent upon the immaturity of the pyramidal tracts; it resembles the response of pyramidal equilibrium rather than that of full spasticity. The extensor response comes on simultaneously with the incidence of pyramidal disease. The reflex is not abolished by total transverse section of the cord and appears to be less affected than any other reflex by nerve shock. (7) The plantar reflex may be absent in health when the foot is cold or damp; it is also frequently absent in hysteria, multiple neuritis, infantile paralysis, affecting the leg and in severe tabes.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Spontaneous Hemorrhages of the Prostate.—MOTZ and SUAREZ (*Am. des Mal. des Orig. Urin.*, April 1, 1904).—From an examination macroscopically of sixty prostates at autopsy, ninety from the Musée Guyon, and microscopically one hundred prostates, the authors find that the hematuria consecutive to a spontaneous prostatic hemorrhage is observed in the case of destruction of the vesical or urethral walls by propagation of a neoplasm or severe tuberculosis of the prostate; that the hematuria observed in prostates are due, above all, to the lesions of the chronic cystitis, which are very frequent in these cases; to blood from the kidneys, pelvis, ureters and posterior urethra; that up to the present but a single case where the intraprostatic hemorrhage has opened into the bladder has been observed. This was caused by the production of an intraprostatic angioma.

Suprapubic Prostatectomy Under Nitrous Oxid Anæsthesia.—WIENER (*Jour. A. M. A.*, May 14, 1904).—The chief contraindication to the performance of a prostatectomy up to the present time, according to the con-

sensus of opinion, has been the danger resulting from the administration of ether or chloroform; and, as the removal of the prostate gland is the ideal surgical procedure in the treatment of prostatic hypertrophy, the author expresses the hope of widening the field of usefulness of this operation and of extending its splendid benefits to patients who have heretofore been considered subjects fit only for palliative operations. By the use of laughing gas and rapid work there seems to be practically no contraindications to suprapubic prostatectomy. The less instrumentation to the urethra and bladder before the operation the better for the patient and surgeon. So that previous to operation the author allows the patient's urine to accumulate in his bladder for about twelve hours in order to distend it. Under laughing gas anæsthesia the bladder is opened suprapubically, the interior bladder wall incised with scissors, the finger introduced through this opening and the prostate rapidly enucleated *in toto*. A strip of plain sterile gauze is packed firmly against the raw surface left by the removal of the prostate. It is essential to begin with continuous bladder drainage immediately after operation.

All of the contraindications usually mentioned are not for the operation, but for the administration of ether or chloroform. The value of laughing gas and of rapid work in these prostatic cases cannot be overestimated. These two factors are, then, the keystone to success in suprapubic prostatectomy.

So we are now enabled to offer these poor old men an almost certain promise of a complete cure by an operation that can be done without ether or chloroform, that rarely takes more than twelve minutes to perform and has a mortality of but 4 per cent.

Entrance and Removal of an Unusual Foreign Body from the Bladder.—WEAVER (*Amer. Med.*, April 30, 1904).—In this case the patient's husband inserted a sponge tent into the urethra, supposing it to be the uterine opening, for the purpose of producing abortion. Fourteen hours later it produced tenesmus and bleeding, and was removed by the writer through the dilated urethra sixteen hours after its introduction.

Experimental Nephritis Followed by Decapsulation of the Kidney.—HALL and HERXHEIMER (*British Med. Jour.*, April 9, 1904).—In these experimental cases no marked formation of new blood channels between the kidney and the adherent tissues surrounding it were found subsequent to decapsulation. The authors experimentally produced acute nephritis by injecting rabbits with 0.5 to 0.75 c.cm. of a 2.5 per cent. solution of neutral ammonium chromate, and noted the effect of decapsulation in these cases. They found that decapsulation means the removal of a portion or the whole capsule with more or less laceration of the cortical tubules, of hemorrhage and the exposure of a raw, absorptive surface. Eight to fourteen days after the operation the kidney is surrounded by a thick, strong connective tissue capsule.

They suggest that the reported improvements following decapsulation may be due to action upon the sympathetic ganglia, and that this operation should be considered in the same light as those operations which, undertaken to remove a renal calculus, lessen the pain and improve the general condition of the patient, although no calculus is found. The

question then arises as to whether complete denudation is indicated or whether punctures would not suffice. In fact, Israel, Nicolayson and others have abandoned the method in chronic conditions. It seems clear that simple reni-puncture relieves tension and promotes renal functions.

Essential Nocturnal Incontinence of Urine.—REVEL (*Ann. des Mal. des Org. Urin.*, April 1, 1904).—The most important element in nocturnal incontinence may be placed at the door of the nervous system. Courcade and Guyon have shown that the sacral nerves act upon the muscular layer of longitudinal fibres, while the lumbar nerves act upon the circular fibres; then the circular layer is that of vesical occlusion. The author eliminates the epidural method, and says air injection should be abandoned. He favors the injection of an artificial serum between the rectum and sacrum. Three cases of cure in adults are reported in which the incontinence lasted from infancy.

Investigations of the Newer Methods for Diagnosing Unilateral Kidney Lesions.—KROTOSZYNER and WILLARD (*Amer. Jour. Med. Sciences*, May, 1904).—The authors have this to say upon the results of their investigations: None of the methods for determining the functional capacity of the kidneys enable us to arrive at a conclusion upon the actual functions of both kidneys or either organ. In other words, none of these methods alone are sufficiently accurate to decide upon the basis of one of them the question whether a kidney should be removed or not. The real value of the methods worked out in our material lies in the comparative results and in the coincidence of the methods. A "*conditio sine qua non*" for application of these methods is ureteral catheterization, and where feasible catheterization of both ureters. If both urines obtained in this way are subjected to cryoscopy, phloridzin test, urea examinations and microscopic examinations, we are certainly enabled to get a fair idea of the functional value of either kidney, and to arrive at safe conclusions from our findings as to intended operative procedures.

Surgery of Urinary Tuberculosis in Women.—HUNNER (*American Medicine*, April 30, 1904).—Some idea of the present status of the surgical technique as evolved in work on thirty-five cases is given, together with the results of the surgery with reference to wound healing, cure of the local disease and effect on the general health of the patient. After a general consideration of the cases in the light of the above, the author says: Tuberculosis of the urinary system is a surgical disease, being, as a rule, unilateral, and often the only focus of tuberculosis in the body.

If the disease is bilateral, and there are no pronounced symptoms referable to the kidneys, the treatment should be that usually accorded tuberculosis of the lungs, viz., suitable climate, nutritious diet and proper regulation of the patient's rest and exercise; but if one or both sides begin to cause marked local or general manifestations, surgical intervention is of much benefit.

In case of bilateral disease, or in associated disease of the lung, the anæsthetic is of great importance. Local cocaine anæsthesia may be used for nephrotomy, and nitrous oxide gas for nephrotomy, nephrectomy or nephro-ureterectomy.

Thickened ureters are generally tuberculous, and should be removed with the kidney if the patient's condition justifies.

Bladder disease in these cases is often non-tuberculous, and removal of the diseased area should not be attempted at the first operation. If the bladder fails to heal within a year, under ordinary methods of systemic treatment, the disease is probably tuberculous, and if not occupying more than half of the bladder it should be excised.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

The Clinical Application of the Direct Methods of Examining the Air Passages and the Esophagus.—v. EICKEN (*Archiv für Laryngologie und Rhinologie*, Band 15, Heft 3).—In a very lengthy article on direct laryngoscopy, tracheoscopy and esophagoscopy the author not only describes in detail the technique of the various methods, but cites many instances where positive diagnoses were made possible only by these methods. Among the advantages claimed for direct laryngoscopy are that the larynx and trachea of an infant can be inspected after all other methods fail, and a good view of the posterior wall of the larynx and the entire inner surface of the trachea can be obtained. The most frequent application of this method the author found to be in determining just how much and at what point or points of the trachea were most encroached upon by cervical or intra-thoracic tumors, especially enlargement of the thyroid gland. A knowledge of the exact point of pressure being of great value to the surgeon in the differential diagnosis between an aneurism of the ascending portion of the aorta and other intra-thoracic tumors, the direct method of examining the trachea often furnishes valuable aid. Intra-tracheal tumors are not only positively diagnosed but are radically removed, as well as foreign bodies in the trachea and the larger bronchi. The writer states further that in a number of cases he was able to positively diagnose carcinoma of the esophagus by means of direct inspection of the esophagus with the esophagoscope and could determine the exact location of foreign bodies which would not have been possible through other means.

The Efficiency of Local Treatment as a Factor in the Cure of Laryngeal Tuberculosis.—SKILLERN (*American Medicine*, May 7, 1904).—After reviewing the established treatments of laryngeal tuberculosis, the author concludes:

1. Local treatment is always beneficial, even if it only relieves the most distressing symptom, *i. e.*, pain.
2. It depends entirely upon the general condition of the patient what form of local treatment is most advisable.
3. While laryngeal tuberculosis in some cases may be cured, there always remains more or less chronic laryngeal catarrh.

4. That extensive surgical procedures in cases in which the lungs are deeply involved, except as palliative treatment, are unjustifiable.

5. That extensive curetting should only be employed in those cases in which there is a fair chance of curing the disease and when it is necessary to prolong life a short time.

6. The prognosis depends more on the general systemic condition of the patient than upon the throat lesion. It naturally follows that the more severe the throat lesion the greater the degree of constitutional weakness.

7. If a case is seen at an early stage of its development, the prognosis is good provided, of course, the concomitant lung disease is responding to treatment.

8. When there is much ulceration and loss of tissue, absolute cure is impossible, but such an amelioration of symptoms may be brought about as to render the patient fairly comfortable for the rest of his existence.

9. The best results are obtained when the tuberculous deposit in the larynx is localized.

When and When Not to Operate on the Mastoid Bone.—GRADLE (*Illinois Medical Journal*, May, 1904).—The indications for mastoid operations are not easily drawn and errors on both sides are not uncommon. According to Gradle, the operative indications can be inferred from the following data:

1. The least suspicion of intracranial extension, based on persistent one-sided headache or on any cerebral symptoms, gives an immediate vital indication.

2. Whenever a perforation threatens this should be anticipated by operation, and if it has opened spontaneous through a narrow fistula the danger of pus under tension should be obviated by better drainage. Perforation is inevitable when the posterior wall of the meatus of the ear begins to sag, whenever the soft tissues behind the ear show inflammatory infiltration (not merely a pale edema) or when infiltration begins around and beneath the tip of the mastoid.

3. When the characteristic signs of mastoiditis, viz., pain and tenderness, continue to increase after the third day, or even increase rapidly after the second day, immediate operation is the safest course.

4. When the discharge of acute otitis with mastoid symptoms does not diminish in the course of about two weeks of appropriate treatment, chronicity must be expected, even though the mastoid signs diminish. Hence an operation is now proper.

5. If the mastoid pain and tenderness begin to diminish after two or three days of climax, the operation may be preferred. Those cases in which the mastoid symptoms remain stationary after the first two or three days belong to the debatable class in which it is difficult to say whether to operate or to wait. If mastoiditis follows, the discharge of which has ceased the need of operation is greater than when there is still discharge from the middle ear. Streptococcus infection means greater danger and more need of operation than the presence of the pneumococcus or staphylococcus in the pus of the middle ear. As a rule, however, we must individualize in these cases and rest prepared for operation until recovery has begun. In cases of doubt, an un-

necessary operation may be safer than an unreasonable delay. In all acute cases the operation to be considered is the opening of the mastoid. The radical operation is entirely uncalled for and improper.

Further Experience with Intratracheal Medication. — DONNELLAN (*American Medicine*, May 14, 1904) reports his recent results from intratracheal medication in tuberculosis, asthma and bronchitis. The technic the author employs is as follows: The larynx is anesthetized with a four per cent. solution of cocaine; the syringe is then charged with the selected medication heated to about 102 F., two drams being the amount used. This is injected directly into the trachea during deep inspiration. The vehicles for the drugs employed are the fluid petroleum oils or pure olive oil, or distilled glycerine. To these may be added creosote, menthol, guaiacol, camphor or chlorotone, in one to four per cent. solutions, singly or combined; or when there is a great deal of cough present, $\frac{1}{8}$ gr. of codeine or morphine may be added. When fetid bronchitis was present, $\frac{1}{2}$ gr. of iodoform or potassium permanganate was found to be useful. Six cases in point are reported in detail.

On the Technic of Laryngectomy Under Local Anesthesia. — WREDEN (*Roussky Vrach*, rev. *New York Medical Journal* and *Philadelphia Medical Journal*, May 14, 1904) reports a case of cancer of the larynx in which he removed this organ under local anesthesia. The substitution of local for general anesthesia in this operation is very desirable, because of the frequency of postoperative pneumonia which follows laryngectomy in spite of the latest forms of canula with tampons which are employed during this procedure when chloroform is given. In the case reported the patient received one gramme of a one per cent. solution of morphine and 0.0012 gramme of scopolamine fifteen minutes before the operation. The first step was tracheotomy under cocaine. Then the larynx was removed according to Billroth's method from below upward, a one per cent. solution of cocaine being injected into the lines of insertion of the muscles to be divided and into the mucous membrane of the larynx along the incision. Altogether twelve hypodermic syringefuls of this solution were used. The operation was entirely painless.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Dendritic Keratitis. — J. W. CHARLES (*The Am. Jour. Ophthalm.*, May, 1904) divides dendritic keratitis into (1) vesicula (herpetic) and (2) papular. The latter form has been definitely connected by certain authors with malaria although cases independent of this disease have been observed.

The inference that the disease is due to a terminal nerve lesion would seem to be justified from the following considerations: Dendritic

keratitis is observed in those diseases which are prone to attack the central or peripheral nervous system. The herpetic form is vesicular and is the expression of a descending neuritis from a lesion in the Gasserian ganglion. The papular form occurs in malaria, grip and other diseases which show a tendency to involve the peripheral nervous system. The irregular ramifications of the papular lesion resemble so strongly the herpetic form as to suggest a nerve lesion probably purely peripheral. The extreme persistence of those cases which do not recover immediately points in the same direction.

The lesion is either (1) a degeneration of nerve terminals caused by a toxin, which also causes inflammation, or (2) it is an active neuritis with injury to surrounding parts by the loss of nerve supply and the blocking of lymph channels. Evidences of the latter are (1) anesthesia. Excluding the other two causes of this symptom (hysteria and pressure edema) it can only be explained by admitting a "neuroparalysis." (2) The shape of the lesion in all reported cases greatly resembles the branching of nerve fibrils. (3) The lesion is at first directly beneath the epithelium, which is innervated by fibrils farthest removed from the nutritional source (the corneal lymph channels), but later involves Bowman's membrane and the substantia profria in which lie the larger bundles of fibrils.

The Epidemic of So-Called Trachoma.—E. M. ALGER (*N. Y. and Phila. Med. Jour.*, April 9, 1904).—This writer contends that the recent agitation relative to the supposed extraordinary prevalence of trachoma in the public schools of certain American cities is unwarranted by the facts. He is decidedly of the opinion that the wholesale diagnoses of trachoma among school children were unjustified, as the course and behavior of the conjunctival disease encountered were far more suggestive of follicular conjunctivitis. This view receives additional weight from the fact that very many of the children afflicted with "so-called trachoma" were distinctly strumous, many of them with large adenoid growths in the nose.

The Management of Glaucoma of the Intermittent Type.—ABADIE (*Ann. d'Oculist.*, April, 1904).—Abadie recognizes a type of glaucoma of insidious onset, which advances at intervals by "crises" of various kinds. Between the exacerbations the symptoms entirely subside, thus giving a false sense of security to the patient and misleading the practitioner. Although at first apparently benign, these cases end in blindness unless recognized early and properly treated.

The "critical" symptom may be: (1) A neuralgia-like pain in the eye and side of the head, which appears suddenly, lasts for one or two hours, and then as suddenly disappears. If it appears without regularity and is recalcitrant to quinine, its glaucomatous nature may be suspected. These attacks become increasingly frequent until, in the end, a true glaucoma supervenes with dilated pupil, permanently increased tension, and other typical symptoms. (2) In other cases the symptom of the prodromal period is the "rainbow-hued" ring around lights. (3) Irregularly-occurring temporary obscurations of vision may be the single

sign premonitory of the approaching true glaucoma. Two or more signs may be combined as "mixed" forms. These "critical" symptoms may precede by two to four years the appearance of any other signs. They can be controlled by pilocarpin for a time, but improvement obtained by this means is not permanent, and the symptoms reappear on withdrawal of the medicine. Abadie thinks that this type is rather common and is largely unrecognized. Iridectomy is the only efficacious therapeutic method.

Right Pulsating Exophthalmus, Ligation of Both the Right Common Carotid Artery and the Left Internal Carotid Artery, Accidental Traumatism, Cure.—C. A. OLIVER (*N. Y. Med. and Phila. Med. Jour.*, April 9, 1904).—Right exophthalmus developed shortly after the patient was shot, the bullet entering back of the right ear. Examination showed the right eye proptosed and turned out. Adversion limited, A thrill (ceasing on pressure of the carotid artery) could be felt when the eye was forced back into the orbit. A pulsatory thrill was detected at the point of entrance of the bullet at the mastoid. The patient complained of a thumping noise beneath the right ear.

Temporary improvement followed ligation of the right common carotid, but four months later the double bruit was found increased as well as the tortuosity of the retinal veins and arteries. The external ocular vessels were dilated.

Three months later all symptoms having increased, the left internal carotid was ligated. Apart from a transient disappearance of the bruit and temporary obscuration of vision on the tenth day there was no result from this operation.

Twenty-one months after the last operation the patient collided with a playmate. The same evening he noticed a diminution of the bruit and exophthalmus. The following morning the bruit had entirely disappeared and never reappeared. Examination three months later showed total absence of pulsation, thrill and exophthalmus.

SOCIETY PROCEEDINGS.

ST. LOUIS SURGICAL CLUB.

Meeting of May 11, 1904.

SUPPURATIVE OSTEOMYELITIS.

Dr. William S. Deutsch read a paper with the above title, for which see page 357.

Dr. Ernst Jonas said that he received the impression from Dr. Deutsch's paper that Dr. Deutsch considers injury, or trauma, as absolutely essential to osteomyelitis. As student, Dr. Jonas saw Dr. Lesoer's experiments with staphylococcus pyogenes aureus on rabbits, and, although Lesoer showed that injury to the bones will make them more susceptible to osteomyelitis, he proved that by injecting a very virulent culture of staphylococcus pyogenes into the veins he could produce acute osteomyelitis — there having been no previous injury to the bone. The importance of Lesoer's experiments, therefore, lies in the fact that any disease, slight or grave, which brings virulent staphylococci into the blood might produce acute osteomyelitis.

He agreed with Dr. Deutsch that a very early and thorough operation is to be advised.

Dr. M. B. Clopton preferred the term "infectious" osteomyelitis. He did not think "suppurative" a good term, for the cases all suppurate sooner or later unless they are operated upon, with the exception of tuberculous ones, which do not necessarily suppurate. Dr. Deutsch had taken x-ray pictures which had helped in the diagnosis. In certain instances they will aid diagnosis in acute cases. He gave as an illustration the case of a small boy who was sick a day or two and then suddenly developed intense pain in the wrist. The third day hyperemia was so marked that it was easily shown in the x-ray photograph. Infection was shown by a very small amount of pus when the radius was opened.

He thought Dr. Dixon would remember the case of a man they had seen at the polyclinic a few years ago. He went there with a tender upper end of the tibia, with a high temperature and suffering more or less at a localized point. The joint was not involved. Without waiting for the classical signs to develop, they went in and found very close to the epiphyseal line a point about the size of a hazel nut, which was the beginning of an infectious osteomyelitis. The man's recovery was interfered with in part by an acute hydrops of the knee, which was not infectious and was not accompanied by fever. The condition when occurring about the knee was comparatively easy to diagnose, but it was difficult when it occurred near the greater tuberosity or near the hip. There it is not always clear how to differentiate it from tubercular hip disease, it being sometimes almost impossible. One thing pointed out by Lovett as constantly characteristic of hip disease was a thickening of the trochanter. In an infection this also occurs. The point is to differentiate between the two, for the treatment is entirely different in each case. In tubercular myelitis operation is never advised and never does any good; in infectious osteomyelitis it is always advised, for that is the only thing that will do any good.

The extent of operative interference is practically unlimited. The whole of the front of a long bone may be removed. He had seen the whole front of the femur, from the head running down to the epiphysis at the knee, removed. The process had gone on for about a week, and it seemed almost impossible to expect anything from the case, but the boy got so well that the flexure was as good as on the other side. The only

thing to do in such cases is to make an immediate and radical cleaning out, and Dr. Clopton did not believe they could go too far.

Dr. John C. Morfit thought we could recognize two main factors in infections—the physiological resistance to invasion and the invading organism. The severity of the infection is an index of the former, rather than of the virulence of the latter. We cannot conceive of a theoretically aseptic wound. Wounds are practically aseptic when the resistance is sufficient to subdue the ever present organisms or their products.

Proliferative osteitis, without pus formation, as illustrated in luetic osseous hyperplasia, is an evidence of impaired vitality, permitting a degree of stimulation just short of inflammation. Such bones seem ever on the verge of suppurative inflammation. Barring constitutional causes, which weaken the normal defences, we have the acute and chronic suppurative varieties in which a history of trauma is almost invariably obtained, and for want of any other or better cause, we assume that it must be the important etiological factor which has upset the equilibrium normally sustained. The case is rarely seen in which a blow or a bruise, be it ever so slight, is not recalled by the subsequent developments. The wonder is that the inflammatory results are so infrequent when compared with the proportionately large number of traumatisms not so followed. If we are right in assuming a traumatic starting point in these conditions, their comparative infrequency is a beautiful tribute to our natural systemic defences.

The diagnosis is made difficult, most often, by lax methods in examining the case. The treatment needs no comment. It is that of all inflammations—drainage and rest.

Dr. Deutsch, in closing, said that he felt very much complimented that they had enhanced his paper by such an able discussion. In regard to Dr. Jonas' statement that trauma was not always the cause of the condition, he said this was true, but the case he had written about was one due to trauma and he had therefore attempted to confine himself to that class of cases in his remarks. He had recently noticed that Fraenkel had written at length upon osteomyelitis, not diagnosed in the life of the patient, especially in the long bones, the condition having evidently occurred as a result of infectious fevers, as numerous autopsies showed. He had referred in his paper to typhoid as one of the possible causes, but had tried to keep the paper strictly limited to traumatic osteomyelitis.

As to the permanent injury caused by myelitis, he thought Dr. Clopton's theory was entirely correct. In this case there was simply left a shell of bone and the little girl now ran around and played and showed only a scar on the front of the leg to indicate the amount of damage. He believed this good result was obtained because the incision was an unusually long one.

BOOK REVIEWS.

MIKROSKOPIE UND CHEMIE AM KRANKENBETT. Fuer Aerzte und Studierende. Bearbeitet von DR. HERMANN LENHARTZ, Professor der Medizin und Direktor des Eppendorfer Krankenhauses in Hamburg. Mit zahlreichen in den Text gedruckten Abbildungen und drei Tafeln in Farbendruck. Vierte, wesentlich umgearbeitete Auflage. Berlin: Verlag von Julius Springer. 1904. (G. E. Stechert, New York.)

In the six main divisions of the book the author treats successfully of the vegetable and animal parasites, the examination of blood, sputum, stomach contents, stool, urine, and finally of the exudates and transudates. The utilization of bacteriologic methods for diagnostic purposes is treated fully and very clearly, especially the bacteriologic examination of the blood. The thin and yet opaque paper enables the volume of 377 pages to be condensed into so small a bulk that it can almost be slipped into the pocket. At the back of the book is a series of colored plates of unusual beauty and fidelity. In particular the plates illustrating stained blood specimens from various diseases are superior to anything we have seen in a book of this sort. An adequate index doubles its value.

LEITFADEN DER THERAPIE DER INNEREN KRANKHEITEN MIT BESONDERER BERUECKSICHTIGUNG DER THERAPEUTISCHEN BEGRUENDUNG UND TECHNIK. Ein Handbuch fuer Praktische Aerzte und Studierende. Von DR. J. LIPOWSKI. Zweite, verbesserte und vermehrte Auflage. Berlin: Verlag von Julius Springer. 1904. (G. E. Stechert, New York.)

This little volume of some 236 pages presents a brief guide to the modern therapeutics of internal diseases. It is by no means a mere compend, but is full of originality, and is based upon the writer's own great experience as well as upon what is best in recent literature. While primarily devoted to therapeutics, it contains many valuable diagnostic and pathologic nuggets. The arrangement is systematic, not alphabetical, and, being a masterpiece of condensation, it is astonishing how much material the writer has managed to put between the two covers. Many a bulky text-book contains no more meat. We can unreservedly commend it to readers of German as a volume for ready reference. It is in every way quite up to date.

ROENTGEN RAY DIAGNOSIS AND THERAPY. By CARL BECK, M. D. With 322 illustrations in the text. D. Appleton & Company, New York and London. 1904.

This book is similar to the work of Williams, and compares very favorably with it in general. The x-ray prints are an improvement on those in Dr. Williams' book; they are, in fact, superior to any that have yet been published in book form. The chapters on the treatment of deformed fracture and on the medico-legal aspect of the x-ray, are right up to the latest ideas. The various skin affections where the Roentgen ray is of value as a therapeutic agent are classified, and some interesting "before and after" pictures shown. The book has a distinct value.

MANUAL OF MATERIA MEDICA AND PHARMACY. Specially designed for the Use of Practitioners and Medical, Pharmaceutical, Dental, and

Veterinary Students. By E. STANTON MUIR, Ph. G., V. M. D. Instructor in Comparative Materia Medica and Pharmacy in the University of Pennsylvania. Third edition, revised and enlarged. Crown octavo, 192 pages, interleaved throughout. Bound in extra cloth, \$2.00 net. F. A. Davis Company, Publishers, Philadelphia, Pa.

This work, originally published eight years ago, and a second edition four or five years later, is intended to give to practitioners and students of medicine, in as concise and clear a manner as possible, the essential points in materia medica and pharmacy without the detail which necessarily results in a bulky volume. The first part consists of a synopsis of the terms most frequently used in materia medica; in the second, the chief drugs, arranged in alphabetical order, are briefly discussed; while the third is devoted to a concise presentation of pharmaceutical processes. The book will find its chief value in the hands of medical students, and, being interleaved, lends itself to use as a lecture note-book.

THE MEDICAL NEWS POCKET FORMULARY. By E. QUIN. THORNTON, M. D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. New (sixth) edition. Lea Brothers & Co., Philadelphia and New York.

Besides a useful list of weights and measures, incompatibles and dose-table, the little book contains a great number of prescriptions and helpful hints under the headings of the various diseases, arranged alphabetically. It has the valuable features as well as the limitations inherent in such a compilation.

ORGANIC AND PHYSIOLOGIC CHEMISTRY. A Manual for Students and Practitioners. By ALEXIUS MCGLANNAN, M. D. Series edited by V. C. PEDERSEN, A. M., M. D. Lea Brothers & Co., Philadelphia and New York.

This little volume contains the essential knowledge on the subject of organic and physiologic chemistry for medical students and practitioners of medicine who have not the time and inclination to read voluminous works. The first part deals with organic chemistry pure and simple, taking up in turn the various groups, and presenting concisely the facts necessary for a reasonable knowledge of their characteristics.

The second part deals with organic chemistry in its relation to the human organism. This part is of the greatest interest to the student of medicine. It contains chapters on chemical changes in living organisms, chemical composition of the animal organism, milk, digestion, respiration, elimination of waste material, food and diet, metabolism, etc., etc.

A NARRATIVE OF MEDICINE IN AMERICA. By JAMES GREGORY MUMFORD, M. D., Assistant Visiting Surgeon to the Massachusetts General Hospital, etc. Philadelphia and London: J. B. Lippincott Company. 1903.

This book does not aim to be a complete history. It is a narrative. The story of the rise and progress of American medicine and surgery is told in an attractive style. The book is one of the best of its class that it has been our privilege to read. The publishers have done their part in a creditable manner.

THE WORTH OF WORDS. By DR. RALCY HUSTED BELL, with an Introduction by DR. WILLIAM COLBY COOPER. Hinds & Noble, Publish-

ers, New York. \$1.25 postpaid. Third revised and enlarged edition.

This is a book which will prove useful to all who want to speak and write good English. The arrangement of the text matter in pithy paragraphs of alphabetical sequence, and with marginal notes, makes it very handy as a ready reference book. The *Worth of Words* is printed in clear type, and contains 336 pages.

WOMAN'S UNFITNESS FOR HIGHER COEDUCATION. By ELY VAN DE WARKER, M. D., Commissioner of Schools, Syracuse, N. Y. The Grafton Press, New York. 1903.

The author advocates in this little volume some strong arguments for his contention that the time for higher coeducation has passed. Although it is impossible to accept unreservedly every one of the author's arguments, it cannot be denied that, as a whole, the subject is handled by him in an interesting and clever manner, and that many of his points undoubtedly are well taken.

THE PRACTICAL CARE OF THE BABY. By THERON WENDELL KILMER, M. D. With 68 illustrations. F. A. Davis Co., Publishers, Philadelphia. 1903.

This book of 158 pages gives much valuable advice concerning the proper care of the new-born child. In its general scope it is different from similar publications insofar as it brings in greater detail the little "ins and outs" of the care of the baby. The author wrote this booklet for mothers who know absolutely nothing about the care of babies, and in this way certainly has enlarged the field of usefulness for a work of this kind. The illustrations are very good, and enhance the value of this little book.

PHYSICS AND INORGANIC CHEMISTRY. A Manual for Students and Practitioners. By ALEXIUS MCGLANNAN. The Medical Epitome Series. Lea Brothers & Company, Philadelphia.

Like the other volumes of this series, the little book exposes, in a terse and concentrated way, the principles and essentials of the subjects named in the title. The contents are unobjectionable from a scientific point of view, and cover the ground fully. In places the endeavor to be short and to condense statements in as few words as possible, has led to a form of language difficult to be interpreted by a reader not well versed in the matters discussed. As an instance, the definition of the polarization of light may be mentioned, that will leave to many a reader this phenomenon a mystery. As an introduction to the sciences dealt with the book cannot be used, but it may be of great value for purposes of reference and of refreshing the memory.

A MANUAL OF HYGIENE AND SANITATION By SENECA EGBERT. Lea Brothers & Co., Philadelphia. Third edition.

Egbert's book is well known, and the fact that the third edition appeared five years after the first, proves that it is appreciated. The traits of the book are not changed in this edition, but everywhere the attempt is noticeable to enlist the achievements of the work of the last years. Although here and there the author's personal views perhaps stand too much in the foreground, the representation is objective and impartial. The utilization of the Reports of the United States Census for 1900 for certain chapters is highly to be recommended, as some questions on certain diseases and on the dealing with them have received a new impetus by them. The book, as is known, does not intend to be a text-book, but a book for general use of the professionals as well as of the educated part of the lay public. It certainly has done much good, and will continue doing so in its new edition.

A COMPEND OF PATHOLOGY—GENERAL AND SPECIAL. A Student's Manual in One Volume. By ALFRED EDWARD THAYER. Second edition. P. Blakiston's Son & Company, Philadelphia. 1903.

Thayer's Compend forms as one volume the second edition of his two books on general and special pathology published in 1902. As this book is intended for the student as an addition to lectures and practical work, all theoretic considerations and all discussions of doubtful or disputed questions are omitted. The substance of the text, however, deals with the subject in a clear, precise way that is well adapted to the needs for which it was prepared. Although no references to literature are made, the latest publications appear to be utilized as far as necessary. It is seldom that in a book on pathology the author refrains from asserting himself; this is avoided here. The illustrations accompanying the text are good, although perhaps not numerous enough. The work will serve its purpose well enough—better than the luxurious compilations of pictures appearing in atlases and leaving for the student nothing but comparing picture with picture.

DISEASES OF THE EYE. By L. WEBSTER FOX, A. M., M. D., Professor of Ophthalmology in the Medico-Chirurgical College of Philadelphia, Pa.; Ophthalmic Surgeon to the Medico-Chirurgical Hospital. With 5 colored plates and 296 illustrations in the text; pp. 584. Cloth, price, \$4.00. New York and London: D. Appleton & Co. 1904.

Dr. Fox states in the preface that his object has been "to provide a digested summary of the known facts for use of students who, in after life, become practitioners of medicine." It would be invidious, therefore, to institute a comparison between this work, confessedly limited in scope, and an exhaustive and scientific treatise on ophthalmology. As was to have been expected, the practical aspect of the subject is the one always uppermost in the author's mind, and it is the one on which he lays particular stress. A good deal of space is devoted to the exploitation of the author's personal views, which are not infrequently somewhat at variance with accepted dicta. This persistent riding of hobbies seems hardly in accord with the author's expressed purpose to present the known facts of ophthalmology to the undergraduate student. It is to be feared that the latter will find it difficult to form a judgment as to what is essential and what is trivial in ophthalmology.

The letter-press is excellent, and is embellished by numerous illustrations, which are in the main very good. Miss Margaretta Washington has contributed a number of colored plates.

A HANDBOOK OF DISEASES OF THE EYE AND THEIR TREATMENT. By HENRY R. SWANZY, A. M., M. B., F. R. C. S. I. Eighth edition, revised. With 168 illustrations and zephyr card of Holmgren's tests. Price, \$2.50 net. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1903.

This (eighth) edition of Swanzy's well-known Hand-book has been thoroughly revised. Much fresh matter has been introduced, and a good deal that was obsolete omitted. A number of chapters have been amplified, certain topics being deemed worthy of a more detailed presentation.

In the preface to the fourth edition the author states that he has aimed to give "a succinct and practical account of his subject in its most modern aspect, without weighting his pages with excessive detail and prolonged discussion." It cannot be denied that this object has been admirably attained.

In the main the author's teaching is in accord with the accepted tenets of modern ophthalmology. We cannot agree, however, with the statement (page 48) that "it is not necessary to prescribe glasses for very slight degrees of myopia." Doubtless many cases of low myopia may be allowed to go with their refractive defect uncorrected without injury, but the implied assumption that all low-grade myopias are of the unprogressive type is not warranted by the general experience of ophthalmic surgeons.

An interesting and valuable feature is the short bibliography appended to each chapter.

JULER'S OPHTHALMOLOGY. Third edition. Revised and enlarged. A Handbook of Ophthalmic Science and Practice. For Students and Practitioners. By HENRY E. JULER, F. R. C. S., Ophthalmic Surgeon to St. Mary's Hospital; Surgeon to the Royal Westminster Ophthalmic Hospital, London. Octavo, 733 pages, with 190 illustrations and 25 full-page plates in colors and black. Cloth, \$5.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York. 1904.

Dr. Juler's work has long been favorably known to ophthalmic practitioners, and this (third) edition, which has undergone thorough revision and an increase of about 200 pages in size, will surely be welcomed not only by the specialist, but by the general practitioner as well. Each chapter is preceded by a concise description of the anatomy and physiology of the structures under consideration. Especially to be commended is the orderly grouping of the topics under appropriate headings. The subject of treatment is dealt with in a broad and comprehensive manner, and at the same time with sufficient attention to detail.

The writer possesses a singularly readable style, which has distinction without rigidity. In this respect it could well serve as a model to many medical authors whose scientific performances are so frequently marred by gross inattention to literary form.

The illustrations are well executed. In the colored plates, illustrating conditions in the fundus, the red tint is rather too glaring, and does not truthfully represent the yellowish-red tint of the normal eye-ground.

TULEY'S EPITOME OF PEDIATRICS. A Manual for Students and Practitioners. By H. E. TULEY, A. B., M. D., Professor of Obstetrics in the Medical Department of Kentucky University. pp. 266. Price, \$1.00. Lea Brothers & Co., Philadelphia and New York.

If it be admitted at all that medical epitomes are valuable, there can be no question that this volume will be a welcome addition to the list of smaller works on pediatrics. The treatment of the subject-matter is necessarily condensed, but the author has managed to get a great deal of valuable information into small space, and clearness has not been sacrificed to brevity. The chapter on infant feeding is especially good and surprisingly complete. The acute infections are concisely but very clearly handled. The questions at the end of each chapter will be of value to the student in suggesting the points of special importance in the individual subjects. The book work is very good.

VERHUETUNG DER GEISTESKRANKHEITEN. By W. WEYGANDT, Wuerzburger Abhandlungen aus dem Gesamtgebiet der Practischen Medizin. A. Stuber's Verlag, Wuerzburg. 1904.

This little monograph is one of the most satisfactory that has appeared on the subject which has been so often touched in a collection such as this one. What is always desired in a work of this sort is some evidence that the writer of it really has something to tell. Instead of the usual vague statements found in monographs of this kind, there are a succession of well-planned chapters on just the points that one desires first-hand knowledge and opinion. Especially to be commended is the author's attempt to place before his readers a more practical classification of the material which this paper treats. He classifies all individuals into three groups: (a) People who, from a psychological point of view, are practically normal. Into this class are to be placed also those who might have had a slight phobia, or whose distant relatives show an occasional departure from the normal. (b) People who are the subjects of milder forms of psychoses. In this class are included hysteria, neurasthenia, chorea, alcoholics, etc. (c) The psychically diseased people and those with family diseases of various sorts.

This abstract is given to call the reader's attention to the manner of the presentation of the subject. It is a thing that one can read and feel that what he is reading is not a product of the publisher's desire to get a well-known name, nor that it is the expression of the editor's friendship for the author, but that it is a matter that the author has thought about and not vainly. It is written in a very readable and delightful German.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. For Practitioners and Students, A complete dictionary of the terms used in medicine, surgery, dentistry, Pharmacy, chemistry and the kindred branches, including much collateral information of an encyclopedic character, together with new and elaborate tables of arteries, muscles, nerves, veins, etc.; of bacilli, bacteria, micrococci, streptococci; eponymic tables of diseases, operations, signs and symptoms, stains, tests, methods of treatment, etc., etc. By W. A. NEWMAN DORLAND, A. M., M. D., editor of the "American Pocket Medical Dictionary." Handsome large octavo, nearly 800 pages, bound in full flexible leather. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Price, \$4.50 net; with thumb index, \$5.00 net.

In this the third edition several hundreds of new terms that have been added to the vocabulary of medical sciences have been incorporated and clearly defined. The entire work, moreover, has evidently been subjected to a careful revision, and many of the tables, notably those of acids, bacteria, stains, tests, methods of treatment, etc., have been amplified, and their practical value greatly increased. It is only by such constant and careful revision that a medical dictionary can hope to reflect the progress of medical science, and the usefulness of this work by this present revision has been very largely extended.

THE AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. NEWMAN DORLAND, M. D., Assistant Obstetrician to the Hospital of the University of Pennsylvania. Containing the pronunciation and definition of the principal words used in medicine and kindred sciences, with 566 pages and 64 extensive tables. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Flexible leather, with gold edges, \$1.00 net; with thumb index, \$1.25 net.

In this little work, now in its fourth edition, we have a pocket dictionary equaled by none on the market. In this edition several thousand of the newest terms that have appeared in recent medical literature have been added, and the entire work subjected to a careful revision. We believe that the work in its new form will meet more fully than ever a real demand on the part of physicians and students.

THE SELF-CURE OF CONSUMPTION WITHOUT MEDICINE. With a chapter on the Prevention of Consumption and Other Diseases. By CHAS. H. STANLEY DAVIS. E. B. Treat & Co., New York.

This work is devoted to a consideration of the cure of consumption by other than medicinal methods. In the words of the author, its object is to show "how consumption from its beginnings to its last stages, before actual decay of the lungs takes place, can be cured in at least ninety-five per cent. of cases, and this without the use of medicine." The book is well arranged, and deals with all of those hygienic measures which have recently received so much attention in the treatment of tuberculosis.

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ORIGINAL ARTICLES.

LARYNGECTOMY.*

By N. B. CARSON, M. D., of St. Louis.

New growths of the larynx are very common, and may be either benign or malignant. F. Simon counted, up to 1889, 12,297 cases of laryngeal tumors, 10,745 of which were benign and 1,550 malignant. Eighty-eight per cent. of tumors of the larynx are therefore benign, and twelve per cent. of the total number malignant. (V. Bergmann, "Surgery," Vol. II, p. 225.) This I find is about the average percentage according to the statistics of others.

While both the benign and malignant are alike interesting to the surgeon, I shall treat only of the malignant growths, for the reason that my experience is limited to them.

Malignant tissues of the larynx include both sarcoma and carcinoma, the proportion of the one to the other being as 1 to 12. (Sendzick.) Up to 1894, Sendzick collected 452 operated cases of carcinoma and 50 cases of operated sarcoma. (V. Bergmann, Vol. II, p. 223.) He discovered a very decided influence of sex in these cases, in sarcoma the proportion being two males to one female, and in carcinoma six males to one female.

For this condition there is only one treatment, and that is surgical; and whether that be partial or complete removal, depends altogether on the extent of the involvement.

When we see the death rate for laryngeal tumors diminished from 44 to 8.5 per cent., and those remaining well over three years increased from 7 to 16 per cent., while those remaining without recurrence less than three years has been increased from 14 to 33 per cent., who can doubt the propriety of surgical treatment in these otherwise hopeless cases.

With the improved methods of diagnosis and earlier operations, I am sure the mortality will be still further diminished, and the longevity of those operated upon increased.

To improved technique and earlier diagnosis are to be credited the improvement. Keen gives as the cause of mortality: (a) weakness of the

* Read before the St. Louis Surgical Society, May, 1904.

patient by reason of the disease, the poor circulation of the blood, and the entrance of septic discharges from the diseased larynx into the lung before operation; (b) shock, including hemorrhage, during operation; and (c) after the operation septic pneumonia, due to the aspiration of infected wound fluids. And to these may be added, according to others, general instead of local anesthesia, and the inhibitory action, through the superior laryngeal branch, of the pneumogastric nerve of the heart.

The first cause can be in a measure obviated by early operation and the discontinuance of efforts to confirm the diagnosis by the microscope and the administration of anti-specific remedies, which latter is often fatal through waste of time and the damage inflicted to the nutrition of the patient. I am sure that this was the cause of the death of my third case, as he failed decidedly during the time so employed.

McKenzie, J. N., says: "Search the literature of today (*New York Med. Jour.*, September 8, 1900), alike in text-book and periodical, and we see how comparatively little reliance is placed upon clinical signs and symptoms, and how quickly the microscope is invoked, and often with disastrous results." "The removal of the piece for microscopic examination too often is only the beginning of the end." In V. Bergmann, "Surgery," Vol. II, p. 289, we read: "The microscopical examination is of the greatest value in doubtful cases;" and lower down on the same page we read: "An examination of this sort, however, is not always positive, as shown by a number of cases in which a diagnosis of benign and malignant growths was made by different examiners, all using one and the same piece of tissue." "The surgeon of today discriminates with marvelous accuracy (with the naked eye) between the different varieties of benign and malignant growths, and we should encourage a like amount of skill in the diagnosis of laryngeal tumors. There is, unfortunately, no solitary unequivocal symptom or laryngoscopic sign of cancer. The diagnosis must be made by grouping together, when present, both the local and general phenomena." McKenzie gives three methods which must be resorted to: "(1) The naked-eye method, or diagnosis by direct inspection, supplemented by clinical phenomena. (2) Thyrectomy. And finally (3), the microscope. Of the first two methods, the second is often included in, and therefore auxiliary to, the first.

"But suppose, after weighing carefully all the facts of the case in our possession, a reasonable doubt remains as to the diagnosis, shall the next step be the removal of a portion of the diseased structure for examination? In the face of all authority to the contrary, I say, emphatically, *no*. Before even considering such a proposition (if it be considered at all), the suspected growth should be examined from every point of view, for in this manner alone can we give the naked-eye method its full measure of usefulness.

"This is best accomplished by the second method (thyrectomy), or,

if necessary, even more extensive external division of the tissues of the neck. Thyrectomy is always justifiable in such cases when laryngoscopic examination either leaves a reasonable doubt as to its true nature, or manifestly fails to define the exact territory occupied by the disease."

I have quoted so extensively for the reason that it bears out so perfectly my experience. In my first case, valuable time was lost and the destructive process continued while the effort was being made to determine positively the exact nature of the disease. In the second case, much valuable time was lost and several months elapsed because the first laryngoscopist failed to make a diagnosis. Being convinced of the malignant nature of the disease, he removed a piece for microscopical examination, but it failed to show malignancy. A week later he removed another piece, which confirmed the macroscopic diagnosis, but valuable time had been lost. In the meantime the cervical glands became involved, and were removed at the time of the operation.

In my third case, I am quite sure the fatal result was influenced by the efforts to determine the nature of the growth, as the patient failed decidedly during that time.

While I have personally seen no unfavorable results from the removal of parts of the tumor for examination, I must agree with McKenzie that thyrectomy is, on the whole, much the safest and surest method to determine the true nature of the growth, especially as the microscope is so uncertain, of which there is ample proof, and the laryngoscopic picture does not define the extent of the parts involved.

This has been so in my three cases, in which the extent of the involved tissue was much more than was shown by the laryngoscopic picture. So that I think with more frequent resort to exploratory operation the mortality will be reduced, and the longevity after laryngectomy, either partial or complete, increased.

By early diagnosis Keen's first source for high mortality will be overcome. By the improved technique of the Roetter operation the danger from shock has been decidedly reduced.

By the closing of the wound and shutting off the pharynx and esophagus, thus preventing the discharges of these infected "wound fluids, the mortality is still further reduced." As to local anesthesia I have no personal experience, and therefore I cannot speak.

But from my experience in other cases where I have used it and where I have seen it used, I still favor and use chloroform, as it certainly affords more comfort both to the patient and operator.

Surgeons abroad use local anesthesia much more frequently than American surgeons. Kocher, according to Hartley, has probably used it more extensively than anyone else for the purpose of preventing cough, stilling hemorrhage and eliminating pain.

Both Kronlein and Kocher believe that the diminished reflex irritabil-

ity of the trachea and of the bronchi seen in general anesthesia (an additional disadvantage in the use of ether, which does not apply to chloroform), is the increased tracheal and bronchial secretion. This is also eliminated by local anesthesia. The use of cocaine upon the mucous membrane of the larynx has other advantages, in that it defines more precisely the limits of the growth. (Butlin.) And by its anesthetization diminishes the tendency to a sudden reflex inhibition of the heart through the superior laryngeal branch of the pneumogastric nerve. (Hartley.)

Another cause given for the reduced mortality is the Trendelenburg-Rose posture. By this posture the aspiration of blood and other fluids is avoided. It is also claimed that the preliminary tracheotomies and the use of the tampon canula can thus be done away with.

Hartley thinks that the use of the tampon canula increases rather than decreases the dangers of aspiration pneumonia. As I use general anesthesia I favor the use of the canula as rendering the anesthetic less dangerous, and aiding the posture in preventing the aspiration of fluids and by keeping the anesthetist at a distance from the field of operation, thus preventing infection.

There seems to be a very decided difference of opinion as to the advisability of preliminary tracheotomy. Many favor it, while others deem it unnecessary. In my first case a preliminary tracheotomy was done, during my absence from the city, by one of my assistants on account of a sudden attack of suffocation. This operation was done at night. The canula was not well placed and came out soon, and was not used during the subsequent operation. The advantages claimed for this step are that it fixes the trachea and thus prevents the drawing upon the sutures and tearing them out, fixing the divided end of the trachea into the wound, and also that it allows the plugging up of the upper end of the trachea and so prevents the aspiration of fluids.

By the use of the Gerster canula and the Trendelenburg-Rose posture, and the drawing of the trachea upwards and forwards, the preliminary tracheotomy is unnecessary and only adds to the chances against the success of the operation.

Davis says: "While in many cases tracheotomy would be easy of performance and quick in healing, in others (particularly for existing carcinomatous disease) it may in itself prove fatal, or leave the parts in quite unfavorable condition for a subsequent removal of the larynx."

Case 1.—Mrs. E., sixty years, German, housewife, city; entered the hospital February, 1887, on account of laryngeal trouble. Patient gave a good family history. No specific history.

Physical examination, slight build, thin, showing loss of flesh; skin shriveled, cachexia marked; lungs, heart and other organs healthy. Laryngoscope showed destructive process in both true and false cords, with thickening of surrounding parts. To make certain the diagnosis of

malignancy, antispasmodic remedies were administered. Under this treatment the patient's general condition failed. Several days before the operation, and during my absence from the city, the patient was seized with a difficulty in breathing during the night, and one of my assistants opened the trachea. The tube, for reasons stated above, was not well placed, and came out the next day, and the urgent symptoms having been relieved, it was not replaced. In April the larynx was removed, under chloroform, by a straight incision from just above the hyoid, joining the tracheotomy incision below. The larynx and upper portion of the trachea were cleared and the tissues held aside. The trachea was divided and turned forward and stay sutures placed and a canula introduced; a rubber tube was attached to the canula, and gauze was packed to prevent the insufflation of blood and discharges, and the anesthesia continued. The larynx was then freed from the esophagus and pharynx. Noticing, after the removal of the larynx, that the opening in the upper end of the esophagus and the pharynx came well together spontaneously, I determined to close them with sutures and then suture the skin, first having attached the trachea into the lower end of the incision, thus avoiding the large, slow healing, granulating wound, which was the custom at that time.

For two or three days she was kept in the sitting posture and fed by the rectum. On the third day she was fed by a tube passed into the stomach through the nose. Within a week she was able to talk enough to make the nurses and others around her understand her wants. She made an uneventful and rapid recovery, and left the hospital in good condition and remained well until late in the following August, when she died from heat stroke.

I did in this case, as you will note, practically the operation which subsequently became the accepted operation for the removal of the larynx.

Case 2.—Mr. S., married, age forty-eight, Missouri, bricklayer; entered the hospital March, 1904, on account of carcinoma of the larynx. Family history good. Habits and also previous history good. About nine months before entering the hospital had grip; since that time noticed voice husky, which had been steadily increasing. About six months ago it began to pain him to swallow, felt raw and rough. Steadily became worse. About three months ago consulted Dr. Loeb, who put him on antispasmodic remedies, and removed a piece for examination, as noted above. General condition of the patient good, and no cachexia present when he entered hospital. Several days after admission to hospital, under chloroform, laryngectomy, after Roetter's method, with patient in Trendelenberg-Rose posture, was done. Patient made an uneventful, rapid recovery, and is now steadily gaining flesh. Fourth day after the operation spoke to his wife one or two words. At present can talk some.

Case 3.—Mr. E., widower, German, fifty-five years, city, painter. Family history good, habits fair. Previous history, had some pulmonary affection when a young man, from which he apparently recovered. About a year and a half ago had grip. As long as he can remember has had a peculiar voice, there always seemed to be something in his throat. Trouble seemed to be in the right side and in front. For the past year his voice has been steadily failing until he entered the hospital, when he could speak with great difficulty and only in a whisper. For a month before he came to hospital it had been quite painful, especially on swallowing. Pain seemed most severe on the right side. Had not noticeably lost flesh; was not cachectic.

Physical examination, fairly well nourished. Heart, liver and other organs healthy. Some changes on percussion, and auscultation (slight) on the left side at apex more than on the right side, indicating old quiescent tubercular foci. Sputum examination, a few tubercle bacilli.

Laryngeal examination showed growths on right cord anteriorly with thickening of the epiglottis and neighboring parts. Piece of tumor secured by Dr. Loeb—examination of one section made by Dr. Teidemann, with negative result. A later section removed by Dr. Loeb was examined by Dr. Bolton, who, after a most careful examination of many sections, pronounced it malignant.

Urinary analysis negative.

Upon the result of this examination by Dr. Bolton, Dr. Elsworth Smith agreeing that the condition of the lungs was not an obstacle, early in May I operated, doing again the Roetter operation, with the Trendelenberg-Rose posture, under chloroform. The patient did well for three days, when he seemed much prostrated. He then again seemed to improve somewhat until the morning of the eighth day, when he had an attack of dyspnoea, which rapidly increased until his death, two or three hours later. The wound healed well. There was no sepsis.

INTUSSUSCEPTION.*

BY CHARLES H. DIXON, M. D., of St. Louis.

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This is one of the most frequent causes of intestinal occlusion, and has received but little attention. Fitz, in his statistics of acute intestinal obstruction, gives this the cause in 31.5 per cent. of 295 cases. Gibson (1) says in one thousand operations for acute intestinal obstruction, 187 were for intussusception, ranking next in frequency to hernia. There are two forms, a physiological and a pathological. The physiological form is distinguished from the pathological by the non-inclusion of the menestery and the absence of any pathological changes

* Read before St. Louis Surgical Club, January 8, 1904

in the intestinal wall and peritoneum—therefore it is the latter form with which we have to deal.

It usually occurs singly, and in any part of the intestinal tract, but is found most frequently in the most movable portion, and is usually of a descending form, although a few cases of the ascending type are on record. The different forms of invagination depend on what portion of the gut is implicated, but the great groups are, enteric, colic and ileocecal. It usually occurs in early childhood. Fitz says 34 per cent. occurs under one year and 56 per cent. under ten years. Gibson states that in all cases of intestinal obstruction under one year the cause is due to intussusception. The majority of cases occur in the male, the ratio is about $1\frac{1}{2}$ to 1. Leichtenstern (2) claims invagination is due to a paresis of the bowel, the increased peristalsis forcing a normally contractile portion into a paralytic portion. Nothnagel, on the other hand, says it is caused by a spasm of the intestine—a spasmodic contraction of the intestine causing the distal end to be drawn up over the invaginated portion.

The direct cause may be due to the neoplasms of the small intestines, benign or malignant, foreign bodies, ulcers, strictures, enteritis, dysentery and trauma. Baker (3) reports a case of an annular carcinoma of the sigmoid flexure causing invagination. Osler says of 103 cases no cause could be assigned in 42, while in the remaining diarrhœa or constipation had existed. Individual cases had occurred in the course of typhoid fever, pregnancy, variola, gastro-enteritis after use of cathartics and after operation for incarcerated hernia. Pitchford reports a case following convalescence from typhoid fever—autopsy showing nine invaginations occurring in the small intestines, he failed to state whether they were of a pathological or physiological form. Rigby (4) reports seven cases of acute intussusception in the London Hospital in nine days occurring in children of good physique in which there was vigorous peristalsis, the majority of cases occurring right after Christmas. He attributes the cause in these cases due to over-indulgence in the festivities. Owen (5) speaks of a child at seven months operated on for invagination who did well for twenty-four hours, when symptoms recurred, calling for second operation, the intussusception was relieved, but the child failed to rally, and died twenty-four hours after—character of operation not stated. Dobson (6) reports thirteen cases of invagination of Meckel's diverticulum in which the removal of the diverticulum was required before the invagination could be reduced. Terry (7)—similar case of boy at twelve. Moore and Abbott (8) report two cases. Traverse (9) reports one case. Bullock (10) reports a case of invagination due to lumbricoids. Von Mikulicz (11) reports a severe case in which the cecum protruded from the anus.

The most prominent symptoms of intussusception are suddenness of attack, patient in apparent good health, pain, nausea and vomiting.

tumor, hemorrhagic evacuations, meteorism and tenesmus. These symptoms are largely due to circulatory disturbances, the result of the incarceration and subsequent compression of the mesentery. In the physiological variety, where no invagination of the mesentery occurs, most of the symptoms are wanting. Although the subjective and objective signs of intussusception are more characteristic than those of any other form of intestinal obstruction, the diagnosis is not always easy. Hemmeter (12) gives the following as the most valuable factors upon which to base a diagnosis: "Sudden onset of intense pains during perfect health, pains may be continuous or intermitting, nausea and vomiting, which is fecal in only one-eighth of all cases, tenesmus, evacuation consisting of blood and mucus, tumor (sausage shape), suppression of fecal evacuation and flatus, lastly, discharge of purulent and gangrenous shreds of tissue." In the chronic form the diagnosis is much more difficult. Ruffin's statistics show an error of nearly 50 per cent. in fifty-five cases, the tumor is the only definite factor, and when it can be palpated the diagnosis is greatly facilitated.

Purely medical treatment has proven successful in only a limited number of cases, but whether due to this or to spontaneous resolution is questionable.

Medical treatment may be applied from three directions: by mouth as diet, purgative opiates, atropine-gastric lavages; by rectum, as distension with gas or water, replacement of intussusception by repository, intubation of colon, electricity, opiates, rectal feeding, salt water; by application to abdominal walls, as electricity, massage application of heat and cold, puncture of the intestines to relieve gas, injection of opiates, salt water. We might add to this list general anesthesia.

Of the first form, purgatives in this condition should never be resorted to: opiates, although they may relieve pain and pitiable vomiting, should be used with the greatest caution. Atropine has been used successfully in some cases. E. Vidal (13) advocates injection of glycerine extract of pig's intestine, both before and after operation, claiming it lessens stercoræmic infection. Lavages of stomach can only be a palliative measure, but we cannot see how *a priori* could lead to a cure. Forced distension with gas or water per rectum can only be considered as not only non-available, but highly dangerous. Who can tell the amount of damage done to the intestinal wall following an invagination? If the constriction is only of a few hours' duration there may be such changes have taken place from compression of the blood supply in the mesentery that the walls are much weakened and even ulceration may have ensued. Intubation of the colon can be done, but it is an extremely hazardous procedure. Salt water injection has a tendency to increase peristalsis, and in that manner may relieve the condition, and under the same principle an injection of a solution of fresh beef-gall may be used. The use of electricity as applied by Boudet may be ad-

missable, but whether it is due to the current (galvanic) or to increased peristalsis from the salt water injection is questionable. He claims fifty-three cases cured out of seventy cases of intestinal obstruction. Hemmeter (12). Action of opiates the same here as when used elsewhere. Rectal feeding is highly efficacious in high occlusion, not as a curative, but as a general systemic measure. Massage is contraindicated in all cases of occlusion except in some cases of fecal impaction. Application of heat and cold may be done to relieve some of the symptoms. Puncture of the intestine should be done with extreme care and by an experienced person. Erdmann (14) reports twelve cases, ten operations, five recoveries and five deaths, three of the latter operations were done as a dernier resort, all mechanical means having been exhausted; in two cases resections had to be made for gangrene, and one case died septic seven days after operation; of the fatal cases three were moribund when operated on and all were over two and one-half days' duration. Rigby (15) strongly advocates early operation, the moment the invaginated portion becomes gangrenous the mortality rises from 50 per cent. to 100 per cent. The inflation of gas or water is wasting time. Spontaneous healing may take place and occurs mostly in acute cases, but cannot be relied upon; in such cases various lengths of intestines have been sequestered, varying from a few inches to four and one-half feet. Erdmann (16) lays particular stress on the early surgical interference, that text-books should be rewritten on this subject and particular stress laid on the symptoms of suddenness of attack, pain and blood or bloody mucus evacuations and not on the presence of any tumor, especially of a sausage shape, it is more apt to be round or modulated and moderately movable. In over 60 per cent. of twenty-six cases operated on by him no tumor was present.

I report herewith six cases which were as follows:

M., æt. six months, male child, in good health, attack of vomiting, pain and tenesmus coming on suddenly, evacuation of bloody mucus; saw child two days after attack; abdomen slightly distended; tumor in right inguinal region extending into hypochondriac; operation found ileocecal invagination reduced; some ulceration; child died in twelve hours.

G., æt. eight years; while playing was taken with severe pain in the region of umbilicus, bloody evacuation, tenesmus, tumor in umbilical region; under administration of anæsthetic reduction took place.

H., æt. nineteen years; saw two days after attack of pain in umbilical region, accompanied with vomiting, tenesmus and evacuation of bloody mucus, slight elevation of temperature, tumor palpated in the right inguinal region; he had been given a large high enema, and under examination the reduction took place.

McF., æt. eight; was called to see the child after it had been suffering over two weeks with the usual symptoms; large tumor was easily

palpated and he was operated on and an invaginated condition of over fourteen inches found; this was easily reduced; there was no great change in the walls of the intestines or mesentery; fourteen months after, while in good health and playing, was again taken suddenly with severe pain in stomach, vomiting, tenemus and slight mucus evacuation. On account of this attack being similar to previous one, its mother at once carried him to the hospital and sent for me. The tumor was easily palpated and child operated on and invagination of over nine inches found and reduced, and the mesentery was folded over and stitched. There has been no further trouble, and it is now five years since last operation.

D. M., æt. fourteen years, female; five months ago while in good health was taken with severe pain in abdomen, vomiting, mucus evacuation; pain lasting three days, no fever; then was apparently in normal health, similar attacks occurring, first at intervals of about four weeks until present time; one attack occurring March 5, 1904, continued with the usual symptoms for four days; there was also a marked swelling in abdomen; one week later she was in normal health. From March 12th to June 5th she has had a number of attacks, at intervals of two weeks at first, till now she is having them every few days. I saw her in two attacks; there was painful vomiting, bloody mucus evacuation, and a large tumor in the umbilical region was easily palpated, but at each time while manipulating the invagination could not only be felt reducing, but the gurgling noise similar to reduction of hernia was discernible. In several of these attacks she was given large doses of atropine. On June 5, 1903, she was taken with a severe attack, and a tumor apparently about nine inches long was easily palpated in the umbilical region with a central portion of greater hardness. She had been given no atropine during this attack, and an operation having been decided on previously, if she should have another attack, was at once prepared for operation. On opening the cavity a large invagination of the ileum was found, measuring about twenty-two inches; after reducing it two growths were found in the invaginated portion, about six inches apart, about the size of a large olive. They were excised and wound closed. There was no interruption in healing except a small stitch abscess. Dr. C. Fisch gives the following result of the examination of the growths:

"The tumors that you removed from the invaginated portion of the small intestines of a young girl at the Bethesda Home, and that you submitted to me for examination on June 6, 1903, proved to be polypous outgrowth of the mucosa, consisting mostly of typical gland tissues, and therefore appearing of a very soft consistency. They may be called polpi or papillomata, or better and more definitely, fibroadenoma papillare. Of course, these tumors were not of a malignant character, but supposedly, the consequence of chronic catarrhal condition of the intestinal mucosa."

C., æt. thirteen years; was taken with severe pain in right inguinal

region accompanied with vomiting and tenesmus, with slight bloody mucus stool, no temperature, swelling quite easily palpated, after high enema a gurgling sound, as she termed it, was heard; tumor disappeared and after large stool pain ceased. It was thought at first that she had appendicitis.

In reference to a reduction of the invagination, care should be taken not to produce any traction on the proximal end, as it only tends to increase the restriction, but gentle and firm pressure against the distal end of the invaginated portion; and it is remarkable how easily by this means the reduction is often accomplished. If ulceration or gangrene has resulted from strangulation, resection and anastomosis should be done at once.

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SUPPURATIVE DISEASE OF THE ACCESSORY NASAL CAVITIES.

BY W. B. SHIELDS, M. D., of St. Louis.

Suppurative diseases of the nasal cavities are recognized as being more common than was once thought, this on account of the improved methods of diagnosis and more thorough investigation by many competent rhinologists. As we know the four nasal accessory sinuses, the frontal, ethmoidal, sphenoidal and antrum of Highmore are in close proximity, and, in fact, some anatomists regard the sphenoidal sinus as merely a much enlarged posterior ethmoidal cell. It is not uncommon to find a suppuration of the antrum of Highmore accompanying ethmoidal suppuration on account of the opening of the ethmoidal cells being above the antral opening in the nose and gravity not infrequently carrying pus into the antrum of Highmore. Of course, one can readily conceive that chronic suppuration of the frontal sinus, a rather rare disease, would be apt to be followed by more or less implication of the anterior

ethmoidal cells lying below the frontal sinus opening into the nose. Again the close proximity of the posterior ethmoidal cells and the sphenoidal sinus, which is located in the body of the sphenoid bone and not infrequently extending into the Basilar process of the occipital bone, would in case of suppurative disease of the posterior ethmoidal cells be more or less liable to participate in the suppurative process.

We have all had patients consult us for so-called catarrh, which sprays and douches would relieve but not cure, especially cases which would complain of dripping into the back part of the throat. The prompt diagnosis of post nasal catarrh, which is made in this class of cases, is, in my opinion, quite incorrect, as I am of the opinion that the trouble in the majority of these cases is a suppurative process more or less severe going on in some one of the nasal cavities. I believe that suppuration of the accessory cavities is more common in our country than formerly on account of the greater density of population. I am of the opinion that most of these troubles are infection from inhalation of dust laden with micro-organisms, especially the influenza bacillus. The connection between eye diseases and chronic ethmoiditis and sphenoiditis is also being more recognized by oculists every day on account of the intimate relation of the eye and ethmoidal and sphenoidal cells. Many cases have been reported of so-called eye strain accompanied by headache and not relieved by glasses, and which, upon more thorough investigation, have been found to be due to retention empyema of ethmoidal or sphenoidal cells. One finds not infrequently a slight elevation of temperature at some time during the day in these cases, which should excite a suspicion of infection from the nose. My experience leads me to believe that suppurative ethmoiditis is more frequent than suppuration of the antrum of Highmore, although this view is at variance with those of older men. I think that not infrequently we find the antrum disease is secondary to the ethmoidal on account of the relative anatomical arrangement of their cavities. This is more apt to occur than the reverse. Chronic frontal sinusitis is relatively rare, but I believe chronic sphenoiditis is more common than was once thought to be.

I have now under treatment a case of suppurative disease of the ethmoidal accompanied by chronic suppurative sphenoiditis. This patient had the recurring pains at the base of the brain and in the occipital region, which are pathognomonic of sphenoidal disease, and, on doing posterior rhinoscopy, I could see a large amount of pus issuing from the sphenoidal region. No pus could be found on anterior rhinoscopy. In this case I took away the entire middle turbinate, found pus in the ethmoidal cells, which I curetted, intending opening the sphenoidal cells later on. The patient was so much relieved that I did not find it necessary to open the sphenoidal cells, the mere removal of the middle turbinate being all that was necessary as it gave full drainage. The pus accumulated only once since the operation,

accompanied by headache at base and posterior part of occiput, but was relieved upon using measures to allow the pus to escape. In this case I was surprised to find the great relief resulting merely by establishing free drainage, although, in addition to removing the turbinate bone, I probed the sphenoidal cavity several times, which may have removed hard masses from the sphenoidal opening and in that way may have assisted drainage.

The differentiation of ethmoiditis from frontal sinusitis is in many cases most difficult, as not infrequently ethmoiditis is accompanied by frontal pain, and one can only find out the true location of the disease after the most painstaking effort. Transillumination is a valuable aid in making diagnosis, as there is no darkness when the trouble is ethmoidal. Sphenoidal suppuration can generally be differentiated from ethmoidal by the location of pain in the back of the head, in the occipital region, and the pus coming from the sphenoidal region on making posterior rhinoscopy. I am of the opinion that many cases of so-called sick headache were sinus trouble not diagnosed on account of our lack of knowledge in the past of these conditions.

CLINICAL REPORT.

A PLEA FOR MORE CARE AND ATTENTION TO EAR, NOSE AND THROAT IN ALL ACUTE INFECTIOUS DISEASES, WITH REPORT OF A SINGLE CLINICAL CASE.

BY DR. CHAS. J. ORR, M. D., of St. Louis.

In reporting this single case I wish to call attention to the awful sequelæ which occasionally follow acute infectious diseases, and, while not presenting anything new, desire to make an appeal for greater care in the treatment of all such cases, and certainly all physicians should be interested in this subject.

Many individuals when stricken with any one of this group of diseases give an absolutely negative history of any previously observed disease of ear, nose or throat; others have noticed some abnormal condition, most frequently naso-pharyngeal catarrh, and often will tell you of evidence showing the presence of an inflammation of the eustachian tube and middle ear. Whether there is any history or physical signs of previous disease of these parts, in all acute infectious diseases mild preventive treatment is indicated.

When we consider the causes we find they always result in a catarrhal condition of the mucous membrane of a part or the entire tract of the hearing apparatus. Clinically, we can divide all such cases into two classes: First, inflammations of purely catarrhal type, in which the secretions and discharge are mucous or sero-mucous, sometimes containing a few pus cells but never resulting in any serious damage to the contents of the tympanum or its walls; and, second, the suppurative cases, where the secretions are purulent in character and followed by more or less damage to the contents of the tympanic cavity and walls. Usually, the symptoms in the first cases are more mild than in the second. However, this is only a general rule, and often the reverse may be true. I have patients with a simple catarrhal inflammation of the middle ear who suffer the most excruciating pain, and purulent cases with very mild symptoms of acute ear disease. The intensity of the symptoms varies with the different characters of infection, and even with the same infection in different individuals. Suppurative inflammations are usually the result of mixed infection. The presence of hypertrophied lymphoid tissue in the pharyngeal vault greatly favors the retention and growth of infectious bacteria, which quickly involves the eustachian tube or tubes and extends upward, resulting in serious disease of the middle and internal ear. In some of the more rapidly spreading infections like measles, for instance, the ear complications are overlooked. The symptoms such as fever, restlessness, anorexia, thirst, indefinite migraine, sore throat, all being accounted for by the general systemic poisoning, and not considered as in any way local. In cases such as the one hereinafter reported, the local infection of the ear following a

marked improvement of the general condition should be easily and promptly recognized and proper treatment instituted.

In young children, unless there has been a careful record of the general symptoms, it is frequently impossible to recognize promptly the involvement of the ear in this class of cases, rupture of the drum evidenced by a discharge in the external canal being our first knowledge of the invasion. Here, too, we have the added difficulties of direct and thorough inspection of the throat and ear. Frequently the rise in temperature, intense restlessness and continued pulling at the side of the head and ear will aid us in an early diagnosis. In the more severe cases the inflammatory process extends and successively invades all of the accessory cavities, always resulting in impairment of hearing, and sometimes complete deafness.

M. J., age twenty, good family history, native of this state, farmer by occupation, previous health good, had not been ill except an occasional cold for ten years. Always considered himself healthy and normal.

On January 20, 1904, he became ill from an attack of measles. It was pronounced a mild type by his attending physician; no special treatment was given; he remained in-doors and most of the time in bed. During the succeeding ten days the following conditions were present: Slight fever, distinct rash, some cough (not severe), slight coryza, conjunctivitis, but no alarming or anxious conditions. January 30th or 31st he became worse, increase of fever, general malaise, marked soreness and achy condition of back and legs, full feeling in the ears and impairment of hearing. This last condition gradually became worse, some pain in the ear and over mastoid region. About February 2d the right ear began discharging pus. Several days later same condition was observed in the left ear. Behind both ears some redness of skin and slightly swollen condition was observed. This gradually increased on the left side. No treatment of any kind was attempted for the nose or throat; various applications were made to the external ear.

Patient was admitted to Missouri Baptist Sanitarium on February 20th, and upon examination the following record made: Temperature 103, pulse 100, large swelling over left mastoid, slight fluctuation, both ears discharging pus. Over the right mastoid slight tenderness, no special thickening of the skin, no redness, mucous membrane of nose and throat shows acute inflammatory signs and slight atrophic condition. No nasal obstruction, some adenoid growth in the pharyngeal vault. patient complains of pain and throbbing over the left mastoid region, various peculiar noises in both ears, slight vertigo on being raised to the sitting posture, pain much worse on moving the head. Total deafness; tests made with the tuning fork, watch and various noises. No special trouble of the eye or lungs noted. Head was shaved, bichloride pack applied over left mastoid, spray of Seiler's solution for nose and throat, and the usual directions given to prepare patient for operation.

February 21st a simple opening was made over the left mastoid process, finding the cells filled with a thick foul-smelling pus, I removed the entire cell structure and left a clear, smooth cavity. This I packed with iodoform gauze.

With general tonics internally and daily treatment of nose and throat and external auditory canal and dressing of open mastoid, the patient made a gradual improvement but no return of hearing.

On March 25th the patient having recovered, except the deafness, which remained total, some tinnitus in both ears and considerable vertigo, and having read of the remarkable restoration of hearing following lumbar puncture, I concluded to give this patient that chance. He readily consented on my explaining what I wished to do, and telling him it might help, though I was not specially hopeful myself.

On March 26th, with patient under chloroform anesthesia, the lumbar puncture was made, and 30 cc. of spinal fluid withdrawn. The patient remained in bed for a week following; but little reaction from the operation was observed; slight headache on the second and third days; test of hearing revealed no improvement after lumbar puncture. He seemed to feel tinnitus was less and walked decidedly better. He left the hospital on April 5th, his condition about the same.

The treatment of acute inflammations of the ear, such as I am speaking of, consists of preventive, viz., the care of nose and throat so as to reduce the dangers of further extension of the process; abortive, the management of early stages so as to limit the disease and promote recovery without perforation where possible, and lastly, surgical drainage when there is retention of fluids. Regarding the first frequent spraying of the nose and naso-pharynx with 3 per cent. of boracic acid or any mild alkaline antiseptic solution, seeing that the external auditory canal is clear. One-half per cent. sodium chloride solution I consider an excellent spray. Solutions should be used preferably lukewarm.

When there is evidence of ear involvement, no matter how mild the general condition, absolute rest in bed is important. Pain can be relieved by hot water irrigation, dry heat or partially filling the external canal with warm oil and opiates. If intense, internal remedies may be demanded, phenacetine, acetanild, aspirin, but often, in adults especially, morphine hypodermically must be used. Bowels must always be kept free and liquid diet only be given; cold or damp air is especially dangerous. Hot water irrigations administered with a fountain syringe is simple, practical and often quite effective. A teaspoonful of sodium chloride or boracic acid may be added to each pint of water which should be used at a temperature of 105° or 110° F. or even warmer. One should always be careful to have the bag just high enough to allow a gentle flow with little force.

EDITORIAL COMMENT.

THE RELATION OF B. SHIGA TO THE SUMMER DIARRHEAS OF CHILDREN.

At a meeting of the American Medical Association at Atlantic City (Section on Diseases of Children) there was an interesting discussion on the relation of B. Shiga to the summer diarrheas of children. Park, of New York, spoke of the difficulty of ascribing causal relations to specific groups of bacteria, because of the multiplicity of the varieties of intestinal bacteria, and the complexity of results necessarily ensuing from their activities. He believes that it is altogether probable that certain varieties of the colon group—always present in the normal bowel—may, under certain conditions, not always easy to define, become markedly pathogenic. It appears most probable, also, that B. Shiga is a group organism. Certain it is that the Shiga bacillus, as found in Japan, as the direct etiological factor of epidemic dysentery, is not in all respects the same as the one found in the cases of summer diarrhea in America. The fact that several varieties have already been isolated in America, whose relations to each other and to the clinical manifestations are not altogether definitely established, is certainly significant.

It is also noteworthy that no characteristic anatomical changes have been described as always resulting from infection with B. Shiga. In fact, all varieties of inflammation, from the simple catarrhal to the distinctly ulcerative lesion, have been found in undoubted Shiga cases. Indeed, Park even reported that the bacillus had been found in the stools of one normal, healthy infant.

It is thus apparent, and, indeed, the fact was emphasized in this latest discussion of the subject, that the exact relation of this group of organisms to the summer diarrheas of children cannot be considered as definitely established as yet.

Under the circumstances it is easy to understand why the serum treatment should, as yet, not be wholly satisfactory. Of eighty-three cases treated with the serum, collected by Holt, thirty-eight were fatal, and the general results were rather disappointing. There appears to be a consensus of opinion that whatever B. Shiga does, it does early. So that if results are to be obtained from the serum, it must be given early and in large doses.

Inasmuch as there is in all probability, in very many of the cases, especially in the severe forms, a mixed infection it is apparent that specific serum, antitoxic to only one group of the bacteria concerned, will not always avail.

The whole subject is one of absorbing interest. The number, and the character of the investigators now engaged in the study of the problem,

give promise of important additions to our knowledge of the ever perplexing subject of summer diarrhea of children.

MYOMA AND HEART.

A most marked change has taken place within the last few years in our views concerning the clinical aspects of myoma of the uterus. The routine examination of specimens, as now generally adopted in all modern hospitals, and carefully compiled statistics have demonstrated beyond doubt that degenerative processes of a harmful character in uterine myomas hardly can be considered rare occurrences. We owe it to the efforts of Martin, of Cullingworth and Bland Sutton, and in this country especially to the work of Ch. P. Noble, that the old ideas of the harmlessness of myomas has gradually become eradicated. To use the significant words of one of these writers, we are today forced to believe that myoma still has to be classed as a benign new growth from the standpoint of the pathologist, but that clinically it is of a decidedly malignant character. Instead of keeping up the erroneous idea that myomas disappear in the menopause, we will do better in accepting Bland Sutton's claim, that such an occurrence is just as rare as the advent of a comet. We have to admit that positive proof has been furnished by Noble, that over one-third of the women having fibroids will die unless the tumors are removed.

But there is one more complication—rather common as will be seen in the following—which gives strong support to those who plead for the early removal of the uterine fibromas.

Within the last decade several writers have called attention to the frequency with which fibromatosis of the uterus is accompanied by functional disturbances of the heart. A very valuable contribution to this question written by Dr. George Fleck, has appeared in the *Archiv. fuer Gynæcology*, volume lxxi, 1904.

It is noteworthy that just the fact that the pendulum has swung towards a more active interference, is directly responsible for the new interest of the gynecologist in the relation existing between myoma and heart failure. First, it is due to a more careful examination of the heart before operation. Secondly, to investigations into the causes of unexpected complications of the convalescence after operations for myoma. In many instances the relative insufficiency of the heart becomes only manifest if increased demands are made upon its action, if it is called upon to overcome the effects of anesthesia of a long operation, or of an acute loss of blood. It cannot be denied that in some cases the relative insufficiency existing before operation becomes an absolute one after operation, and then may be responsible for the development of extensive thrombosis, for sepsis, for embolisms, and, finally, for the death of the patient.

Fleck's investigations were directed towards the character and the causes of the impairment of the heart. The old contention that this is due to the chronic anemia, produced by frequent hemorrhages cannot be sustained any longer, because it is positively proven that the same disorder of the heart will be found in myoma patients who never bled. Another theory often quoted is that the interpolation of the tumors into the circulation increases the resistency in the circulatory system to be overcome by the action of the heart. This theory is certainly not applicable to those cases in which the size of the myoma and the intensity of the disturbance of the heart are distinctly out of proportion. It has been suggested by some writers that an abnormal condition of the circulatory system may be the primary cause for the development of myomas. Against such a contention speak the actual changes found in the myo-cardium. According to Fleck's observations on the cadaver, the morphological alterations found in the myocardium are degenerative in nature and cannot be classed, as heretofore was done, as myocarditis.

Fleck is inclined to believe that a common cause underlies both the tissue changes in the heart and the uterus, and from pathological investigations and clinical observations, he feels justified in concluding that this cause may be found in an insufficient internal secretion of the ovaries.

SIMPLE METHOD OF PHARYNGEAL IRRIGATION.

Pharyngeal irrigation by means of a syphon of seltzer water appears to be of considerable value in the early stages of almost any kind of angina. M. Gaudier (of Lille), who recommends this procedure, attaches to the mouth of the syphon a rubber tube, ending in a glass cannula. The latter is held between the patient's teeth. By pressing the lever briefly but repeatedly, jets of seltzer water are thrown with some force against the pharynx and tonsils. Between each jet the patient takes breath. The cold effervescent irrigation is usually well borne; it is very soothing, relieves the congestion of the mucous membrane, massages and cleans the tonsils, and may even bring about the evacuation of small superficial abscesses. Four or five such irrigations should be made daily.

"THE BRITISH JOURNAL OF CHILDREN'S DISEASES."

British contributions to the literature of pediatrics have been numerous and often very important, especially in the field of pathology. It is, therefore, a matter of congratulation to the profession to note the appearance of an English pediatric journal. *The British Journal of Children's Diseases* made its first appearance in January of this year.

Judging by the six numbers which have come to hand thus far, the journal will be fully up to the standard which one would expect its editor, Dr. George Carpenter, of London, to set.

The journal will doubtless reflect contemporaneous British thought in its own field and will therefore be eagerly welcomed in America.

We beg to offer Dr. Carpenter and *The British Journal of Children's Diseases* our very best wishes.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Hemaglobin Determinations—Cases of Chronic Heart Disease.—SCHOTT (*Muenchener Medicinische Wochenschrift*, No. 19, 1904) reports the results of a series of investigations with a view to showing the effect of balneotherapy and gymnastics upon the hemaglobin in cases of heart disease, which came under their observation.

The Dore hemaglobinometer was used and found very reliable. According to the author, it has certain advantages in its simplicity, the small amount of blood required, and in the fact that undiluted blood is used for the tests.

Systematic examinations were made of the blood of one hundred and twenty patients. He finds that the balneologic-gymnastic treatment of heart diseases, whether it is weakness of the heart muscle, valvular lesions, Basedow's disease, myocarditis, with or without kidney complications, will increase the previously diminished amount of hemaglobin. In a few cases this increase was very slight. It occurs much more promptly in youthful persons and those in middle life. The aged frequently show no increase. He found some cases in which, during the treatment, the hemaglobin rapidly decreased. These, however, were found to be due to overexertion or febrile complications.

A Fatal Case of Gastric Hemorrhage Due to Miliary Aneurism of Arteries in the Mucous Membrane.—HIRSCHFELD (*Berliner Klinische Wochenschrift*, No. 22, 1904) finds but four cases of gastric hemorrhage due to miliary aneurisms reported in the literature. The case here presented is unlike any other that has as yet been reported.

The patient had in the course of seven years thirteen profuse hemorrhages. He died from the last one. The autopsy revealed a small defect in the mucous membrane, which, when sectioned and examined microscopically, proved to be a very minute aneurism. There was nowhere any evidence of an ulcer, or of a scar. There was no cirrhosis of the liver, no arterio-sclerosis, etc.; in fact no other etiological factor which could in any way explain the hemorrhages.

The patient was a haemophiliac and a member of a family of bleeders. The probabilities are that the hemorrhages would not have proved fatal if the patient had not been a "bleeder." However, in the other cases reported the hemorrhages were fatal, but there was no mention of either of them being haemophiliacs.

The author doubts that it is possible to make a diagnosis of this condition because of the indefinite symptomatology. The physical examinations of the patient during life did not elicit pain upon pressure over the epigastric region and the patient complained of no pain whatever.

It was this point that spoke against the existence of ulcer of the stomach. The etiology of the case is entirely dark.

The author thinks it probable that some of the cases of so-called parenchymatous gastric hemorrhages are of this nature.

A Study of the Tuberculosis Question.—HELLER (*Berliner Klinische Wochenschrift*, No. 20, 1904) upholds his position with reference to tuberculosis developed through the digestive tract. He maintains that primary tuberculosis of the intestines is not infrequent. His pupils, Wagener and Hof, traced 25 per cent. of the primary tuberculosis to the digestive tract. The observations of Koch are not to be relied upon altogether.

Bovine tuberculosis is responsible for a part of human tuberculosis. The hygienic rules which have always been observed in this connection must be observed in the future in the minutest details.

The author gives an exhaustive resume of his work with reference to the ways in which infection of the lungs may take place.

The Relation of the X-Ray and Radioactive Solutions to Examination of the Stomach.—TOUSEY (*New York Medical Journal*, Vol. 79, No. 21) has made an exhaustive study of the radioactive solution in examinations of the stomach, and sums up his work in a few words as follows: Radioactive and fluorescent solution as prepared by the author are innocuous when given by the mouth or subcutaneously.

They do not produce, either singly or in combination, sufficient fluorescence to be of value in the examination of the stomach without the use of some additional light to excite their fluorescence. They will in some cases be of the greatest assistance in the x-ray diagnosis of stomach lesions, and in some cases they will be of value in the x-ray treatment of stomach lesions.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Chylous Cysts of the Mesentery.—TUFFIER (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxx, No. 16).—The author's first case of this kind was a man of forty-eight years, who was suddenly taken sick with terrible abdominal pain, vomiting, and there was seen on admission to the hospital a most marked distention of the abdomen in the middle line. The fact was elicited on examination that the distention was caused by a rounded tumor the size of a child's head, which was movable and fluctuated so that a probable diagnosis of hematoma was made. Upon puncture, however, there escaped 600 c.c. of a milky fluid which presented no tendency to coagulate and which was undoubtedly chyle. The result of the operation was as good as could have been de-

sired. The patient made a perfect recovery and left the hospital on the twelfth day.

It has been frequently remarked that unusual and interesting cases often appear in pairs and the experience of the author bears out this idea, for a week after the observation just mentioned another similar case presented itself. This time it was a child of twelve years with a history of constipation and periodical distention of the abdomen. This may have been said to reach the point of chronic intestinal obstruction. It was impossible to make an exact diagnosis although a tumor mass could be felt low down in the median line. A laparotomy was undertaken with the result that there was found within the mesentery a fluctuating mass which, upon puncture, revealed a chylous collection similar to the one mentioned above. In the vicinity of this first mentioned sac were two others of somewhat smaller dimensions and a large number of little ones. They all contained a similar fluid, and as they could not be safely removed their interiors were drained with gauze wicks. Nine years after the operation this last individual was examined by the author and found to be in perfect health. The rectal as well as abdominal examination revealed no trace of scar or foreign body. It may be said in general that the prognosis in this class of cases is excellent.

Experimental Studies in Enteroenterostomy and Gastroenterostomy Without Operative Opening of the Lumina of the Viscera.—SATO (*Archiv. für Klinische Chirurgie*, Bd. 73, Hft. 1).—With characteristic Japanese energy and ingenuity this author has made a series of most interesting studies upon the lower animals, these being intended to show the resistance of the simple exposed mucosa under varying circumstances. The experiments are of more value since they were not made upon dogs alone, but part of them upon the ape, whose intestinal apparatus is well known to resemble that of man more nearly than does the gut of any other of the lower animals. The author's conclusions were as follows:

The outer surfaces of gut and stomach mucosa when approximated to one another by a suture simply grow together without an artificial opening being formed. The same may be said of the mucous membrane of either when it is exposed and then simply covered by a piece of omentum. The matter becomes quite different when the outer surface of the stomach or intestinal mucous membranes are approximated, each having been seared with the thermo-cautery. By this procedure an artificial opening results in the course of a few hours after the operation has been completed. The same may be said of these membranes when they have been united after cauterization with nitrate of silver. In these cases as well an artificial opening gradually appears. For practical purposes the author suggests that nitrate of silver should be used instead of the thermo-cautery for the purpose of making an anastomosis for the reason that it is much more easily controlled and it produces what he calls a moist necrosis while the thermo-cautery makes a dry one.

The Radical Operation of Inguinal Hernia by Peritoneal Closing.—HOFMANN (*Zentralblatt für Chirurgie*, May 14, 1904).—The author claims that sufficient stress has not been laid in early operative methods upon the treatment of the peritoneum at the point where it goes over into the

sac. He says that true conditions can only be appreciated when one looks at the abdominal wall from the inside. In order to obliterate the funnel which is always here found, the sac must be extensively divided and a purse string suture introduced from within and tied. He goes farther and says that if the peritoneum is properly treated the edges of the wound naturally tend to come together without a suture, and that it is highly probable that if the patient were simply kept in bed long enough after this procedure, the external wound would be properly and strongly healed even though the deep layers were not sewn. Of course he does not go so far, however, as to neglect the simple procedure of wound suturing. He makes one ring suture, as he calls it, of wire, to hold the internal oblique, transversalis fascia and Poupart's ligament, thereby producing support for the sutured peritoneum. This suture is so placed that it passes through the spermatic cord and forces apart the two halves of the latter. The author tells of one hundred perfect results from this method and, what is more than remarkable for a German surgeon, there was not a single case in which the wound suppurated.

Metastatic Thyroid.—TAVEL (*Archives Provinc. de Chirurgie*, Tome xiii, No. 5).—Several interesting cases are related. The first was that of a woman of forty who had been operated upon for a pelvic tumor which recurred, and after all known treatments had been applied to the recurrence the patient died and our author was enabled to obtain an autopsy. The tumor originated in the left sacro-iliac synchondrosis, and from the fact that it had pulsed like certain goiters do, the microscopical examination was awaited with more than ordinary interest. This latter revealed within an angiosarcoma masses of thyroid tissue typical in appearance and containing colloid substances. The title of struma metastatica was then applied to the whole. Clinically the whole thing had the appearance of a rapidly growing sarcoma, though histologically there was a normal tissue structure.

The author relates another equally interesting case of similar nature, and in the theoretical discussion of the subject not only encompasses the entire literature of the subject but gives a classification of his own.

The Lymphatic Metastases in Carcinoma of the Stomach.—RENNER (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Bd. xiii, Heft 2).—This article, coming as it does, from the famous surgical clinic at Breslau, where so much pioneer stomach surgery has been done, should awaken more than ordinary interest. The observations which the author made were not only derived from surgical specimens but also from autopsy stuff, and consequently they combine features of both and are in the highest sense complete. The article is extensively illustrated, there being no less than twenty-five cuts. The author writes that it is impossible to conclude definitely that a lymph node is carcinomatous simply because it is large and hard. On the other hand, he found carcinoma masses in some of the smallest lymph nodes which he examined. One conclusion of interest at which he arrives is that many small carcinoma metastases perish in lymph nodes and are there taken care of. The most important conclusion at which he arrives is that there is some carcinoma lymph node infection in almost every case of cancer of the

stomach, consequently we must regard ourselves as forced to take away as many of these lymph nodes as possible, whether or not we are able to say beforehand that they are diseased. Growth by continuity in these cases is not the rule. It is, on the other hand, to be regarded usually as metastatic.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Treatment of Incarcerated Hernia by Means of Atropine Injections.—HAGEN (*Deutsches Archiv. für Klin. Med.*, Vol. 78, Nos. 6-7; *Therap. Monatsh.*, May, 1904).—According to the writer the rational treatment of incarcerated hernia should be as follows: After the establishment of the diagnosis an effort is made to reduce the hernia by means of mild manipulation. If this is unsuccessful, an immediate injection of atropine is given. After waiting a half hour another attempt at reduction by taxis is made, and if this again fails the same or a larger dose of atropine is injected. This may be repeated two or three times, and will often lead to a successful reduction of the hernia without operation. In the event of final failure, a herniotomy must be performed; the above treatment, even if unsuccessful, forms the best possible preparation for an operation. In the aged especially the bloodless treatment is to be preferred.

The Cause and Prevention of Iodism.—FRITZ LESSER (*Deutsche Med. Wochenschr.*, 1903, No. 46).—The writer has proven experimentally that the iodides never enter the body or circulate in it as albuminous iodine compounds, but always as an alkaline iodide. Even if the drug is given as an iodine-albuminate, it is converted into an inorganic iodide before being absorbed. Free iodine has never been found in the body. The proper term, therefore, would be, not iodism, but iodidism.

The action of iodipin (an oily iodine compound) is peculiar. While it never produces iodism when administered hypodermically, it will do so quite as readily as potassium when given by the mouth. Accordingly, it is clear that the freedom from iodism in the first case is due, not to any peculiarity of the iodipin, but to the manner of its distribution in the body. In both cases the entire dose of iodipin is converted into sodium iodide. Whereas, however, iodipin when given by the mouth is absorbed rapidly, iodine appearing in the urine a few minutes after its administration, the reverse is true when iodipin is given hypodermically. In the latter case the iodipin is deposited at the point of injection, and is absorbed very slowly and gradually. If, for instance, 20 c.c. of iodipin are injected daily for ten days sodium iodide may be demonstrated in the blood and in all the tissues for over half a year.

These considerations, as well as his extensive clinical observation, lead the writer to believe that iodism results neither directly from the total amount of iodine administered nor from the duration of the treatment,

but solely from the sudden flooding of the organism, especially the mucous membranes, with iodides rapidly absorbed. Accordingly, when giving iodides we should aim at a slow and protracted absorption of the drug. This may be effected:

1. By administering the iodide in a mucilaginous vehicle.
2. By dividing the daily quantity into a large number of small doses given at short intervals. The therapeutic effect of the drug is not at all diminished by giving it in small frequent doses, and a moderate idiosyncrasy can so be combatted.
3. By giving the drug per rectum. He likes Zeissl's formula, consisting of 2 grams sodium iodide, 30 grams water and 5 drops of tr. opii.
4. By means of hypodermic injections of iodipin. By this means we can slowly accustom an organism with an idiosyncrasy against iodides to small amounts of the drug, and can then proceed to the administration of larger doses by the mouth.

Paulsen's Syphilis Antitoxin.—APPEL and PAULSEN (*Deutsche Med. Presse*, 1904, No. 5).—The writers have used the bacteria, first grown by Paulsen and considered by him as the cause of syphilis, for the production of an antitoxin. Cultures were injected into horses and goats, at first subcutaneously, then intravenously, and with the serum so obtained fourteen syphilitics were injected. According to the writers' account, the first effect of the injections was always strikingly good. Later, however, the therapeutic activity of the serum seemed to wane, so that in most of the cases mercury had finally to be administered in the patient's interest. One case, a girl of nineteen years, seems to have been cured by the serum. In a man, infected six years ago, who is still under treatment, necrotic gummata about the neck and an anal fissure healed under the serum treatment, and a skin eruption improved distinctly. The writers request an extensive trial of the serum by other observers. Their own results are certainly not very encouraging.

Ergot in Typhoid Fever.—ALFRED T. LIVINGSTONE (*Merck's Archives*, June, 1904).—The writer is one of those who do not accept the dictum which declares that "typhoid fever is not a disease to be treated by medicines." In his view, a careful analysis of the conditions that develop in the course of typhoid fever will show that the most frequent cause of death is insufficient tone of some area or areas of the unstriped muscular fibre which comprises the muscular coat of the blood vessels, lymphatics and alimentary canal. The more thoroughly and promptly this class of tissue is placed upon the highest attainable plane of tone, and the more securely it is maintained there, the less is the likelihood of the occurrence of a fatal degree of any of those conditions. Upon this ground the writer urges the immediate and continued use of ergot, the drug whose peculiar function seems to be the stimulating, toning and strengthening of whatever unstriped muscle fibre is weak, relaxed, stretched or paralyzed. He gives the ergot hypodermically, and makes the solution as follows: One dram of solid extract of ergot is dissolved in one ounce of sterilized, distilled (cooled) water. After filtering the solution, add two minims of chloroform. The dose of this solution is

one-half to one dram. "which may be given from twice to six times a day or oftener, as indicated in the individual case."

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Upon the Production and Properties of Anticrotalus Serum.—S. FLEXNER and HIDEYO NOGUCHI (*Journal of Medical Research*, Vol. xi, No. 2).—In many directions this paper by Flexner and Noguchi is of great interest and importance. It is not only the fact that they have at last succeeded in demonstrating the possibility of obtaining an antibody for the rattlesnake venom, but above all the conclusive corroboration of their former work, that snake venoms are as specific and individualized, as are hemolysins and other specific substances. The difficulty in producing an anticrotalus serum so far was the fatal local, hemorrhagic effect of the venom upon the animals experimented upon, due to the most important constituent of this venom, the hemorrhagin. The authors have in an ingenious way transverted this toxin into a toxoid, and, a la diphtheria and tetanus, achieved their purpose, although this way of explaining the processes may antagonize those opinions promulgated lately by Wassermann, that toxoids alone will not produce immunity, but only the active stimulus of the toxin itself. The authors have also directly and conclusively shown that the action of any antivenin must be always specific and limited to that species of venom by which it was produced. Crotalus antivenin has absolutely no effect upon cobra venom, and vice versa. These results are not only theoretically of the greatest importance, but will have great weight in the effort to prepare these antivenins for practical use. In addition it may be mentioned that the immunization with venom leads not only to the formation of the antivenin-ambocceptor, but also to that of specific precipitins.

The Vascular Supply and the Curability of Tumors.—H. RIBBERT (*Deutsche Medic. Woch.*, 1904, No. 22).—The impossibility to arrive at a satisfactory solution of the tumor problem stimulates the zeal of all observers to find out new characters and peculiarities in all directions. Ribbert in this paper deals with a peculiarity to which, therefore, little attention has been paid, but which, nevertheless, to a degree may have a bearing on the relation of tumors to the organism. He shows that the cells of tumors receive a blood supply inferior to that furnished to the cells of the organs. The afferent vessels are not only arranged irregularly, but branch atypically. The total cross-section of these vessels is too small for the area to be provided for by them. Histologically the vessels are imperfect. There is no differentiation between arterial and venous channels, and gross changes are frequently seen leading to dilatation, etc., and thereby to insufficient nutrition of the tissue. Consequently there are retrogressive changes and finally necrosis. The func-

tional relation between the tumor cells and the vessels is not normal: the former, therefore, cannot utilize the material carried to them by the blood in a way which normal relations make possible. The so-called increased vital energy of tumor cells is only apparent; it is increased only one-sidedly in the direction of multiplication, but not of functional perfectness. For the latter the amount of material supplied to them would not be sufficient. Since thus new formations are less well nourished and have less resistance than the cells of normal tissues, the practical application of reactions either by way of the blood or by local impressions (x-rays), is justifiable. The x-rays, for instance, will not act deleteriously on the less resistant carcinoma cells, nor on the normal elements that are less easily influenced.

About the Action of Antitoxins in the Living Organism.—A. WASSERMANN and C. BRUCK (*Deutsche Medicin. Woch.*, 1904, No. 21).—The experiments reported by Wassermann and Bruck were instigated by the introduction by Behring of a mystical, vital third factor into the interaction of toxin and antitoxin. The authors injected into guinea pigs a mixture of tetanus toxin and antitoxin just neutral to these animals. If they preceded this injection by an adrenalin injection at the same site and thus produced a local capillary contraction, the animals died of typical tetanus. Under these conditions the toxin was taken up by the peripheral nerve endings and traveled along the axis cylinders to the centers, while the antitoxin did not find its way into the circulation. In the organism, therefore, a separation of the toxin and antitoxin had occurred. If, however, the antitoxin, previous to the injection, had been in contact with the toxin for two hours, the binding of one to the other was so strong that in spite of the barring of the road of the blood circulation no separation was noticed. Here, also, when the solutions were concentrated, the binding occurred in a shorter time. These experiments strongly point to the correctness of Ehrlich's position, viz., the antitoxin by chemical combination keeps away the toxin from the living and susceptible cells. There is no unknown or third factor taking part in this process.

The Antilytic Action of Salt Solutions and other Substances.—L. HECTOEN and G. F. RUEDIGER (*Journal of Infectious Diseases*, 1904, No. 3).—This paper extends the previous investigations of Hectoén on hemolysins to the bacteriolysins. Here as there certain salts act antilytic. The subject is practically and theoretically of the greatest interest and will become of the highest importance, if in the future it will be considered in the light of the latest investigations of Matthews on the solution-tension of ions (*Journal of Physiology*, 1904, p. 290). Here it must be sufficient to indicate the results obtained by the conclusions arrived at by Hectoén and Ruediger.

In small doses of one-eighth molecular solutions many salts prevent hemolysis and bacteriolysis by immune-sera. In the same way the action of cobra venom by serum is inhibited. Soluble substances extracted from disintegrated typhoid bacilli have also this effect. The action of these salts is directed on the complements, a conclusion which is made on the basis of very extensive experiments covering all possibilities. The in-

vestigations make it at least probable that the complements as well as antilytic salt solutions follow simple physico-chemical laws.

That the same salts, as a rule neutralize all complements suggests that the physico-chemical properties of the latter are very similar in all of them. The function of the amboceptors remains unaffected by antilytic salts in a concentration that neutralizes the complements. The susceptibility of complements to the influences of various non-specific anticomplements (salts, glycogen, soluble products of typhoid bacilli, etc.), makes it appear likely that neutralization of complements may play an important role in certain infections.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

On Painful and Tender Incipient Ovarian Tumors.—ALBAN DORAN (*Jour. of Obstetr. of Brit. Empire*, May, 1904).—On the basis of a number of cases the writer discusses the importance of pain and tenderness for the diagnosis of incipient ovarian tumors. Credit is given to Dr. Davenport, of Boston, for having called attention to this point. In Doran's opinion there is no special symptom nor group of symptoms known by which a small painful ovarian tumor in the pelvis can be distinguished from an inflamed ovary. If rest causes the pain to diminish, whilst the pelvic swelling increases, the evidence that the ovary is cystic and not inflamed will be strong, but not conclusive. Painfulness of a small ovarian tumor is of direct advantage to the patient, for it betrays the presence of the new growth at an early stage. In none of the nine cases of this series, in which the tumors were painful, was there any complication of the slightest gravity found.

On the Prevention of Puerperal Fever.—P. ZWEIFEL (*Zentralbl. fuer Gyn.*, May 28, 1904).—After giving an historical sketch of the introduction of antiseptics and asepsis into obstetrical work, Zweifel pleads for the adoption by the obstetrician of a principle, the importance of which is generally accepted by the surgeon, namely: the exact control of all hemorrhage. No other fact is indirectly of greater importance in the effective avoidance of infection.

Following this idea, in Zweifel's clinic, in every case a half to one hour after the expulsion of the placenta, small specula are introduced in the vagina, and all coagula carefully removed. For obvious reasons an exact stopping of hemorrhage is impossible. This practice led to a distinct reduction of the fever cases in the clinic. Striking [and conclusive for the contention that not too much weight should be laid upon statistics based upon a small number of cases (Edit.)] is the fact that decidedly less favorable results were obtained when rubber gloves were used in carrying out this procedure. It is needless to say that the introduction of the specula is preceded by a careful disinfection of the vulva.

Zweifel contemplates an investigation as to whether these dangerous coagula could not be removed with less trouble to the patient by means of a warm saline solution. Having always been a strong opponent of the use of douches in obstetrical practice, he does not fail to emphasize that these douches would be essentially different from those administered with the idea of disinfecting the genital tract.

Amenorrhea Associated with Serious Eye Symptoms in a Young Girl.—J. E. GEMELL (*Jour. of Obstetr. of Brit. Emp.*, May, 1904).—The author records the history of a girl, sixteen years of age, whose last menstruation appeared September 19th at the expected time. About six weeks later the patient suddenly found that she was blind in her right eye, but could see quite well with her left eye. At Christmas an oculist was consulted, who gave the following report: Right vision nil; doubtful whether she can even detect light. Right fundal reflex nil, except a small triangular space at the upper and inner quadrant. Left vision about normal. In the left eye is seen a faint floating vitreous cloud.

Considering the fact that the general health of the girl is good, and that her menstruation since her thirteenth year occurred regularly every twenty-eight days, the writer feels justified in concluding that a vicarious hemorrhage had taken place in the right eye. With the idea of re-establishing the menstrual flow a mixture of iron and aloes was prescribed, and thyroid tablets given at bedtime. The patient was kept in bed, and occasionally leeches were applied to the temples. January 18th the oculist's report was: Left eye perfect; right eye very little improved.

The author thinks that the prognosis of vicarious hemorrhages into the eye is unfavorable and that the danger of repeated hemorrhage is imminent, if the menstrual period does not become re-established.

Delivery of Twins with an Interval of Seventeen Days.—J. PAULIN (*Hospitalstidende*, No. 6, 1904; rev. *Munchn. Med. Wochenschr.*, No. 16, 1904).—The writer reports the details of the following very unusual case: A married woman of twenty-five was in about the eighth month of her second pregnancy, when she was surprised by the sudden escape of amniotic fluid. Labor pains began the same evening. Shortly afterwards a living child was delivered, soon followed by a normal placenta. The attending midwife recognized the presence of another fetus in the uterus and called the writer in consultation. The second fetus was distinctly palpable, its heart sounds clear and loud. Some soft tissue could be felt in the vagina, and adjoining it on the left a cervix was found, comparatively hard and firm, its external orifice being partially closed. The examining finger could not pass through the cervical canal. Labor pains had completely stopped and the woman was soon asleep. The next day no uterine contractions could be observed. There were no lochia, nor any signs of secretion of milk. Nine days later patient left the bed.

Sixteen days after the delivery of the first child the membranes of the other fetus ruptured suddenly, and the next morning another living child was born. The placenta was shortly afterwards expelled. Like the first, the second puerperium took an absolutely normal course. But this time the breasts soon became engorged and milk was secreted in

such quantity that the mother was enabled to nurse both children. An examination, made a few weeks later, revealed the interesting fact that the uterine cavity was divided into two sections by a broad septum, the presence of which was ascertained with the uterine sound. On palpation the uterus did not show any anomalies.

Bladder Irritation in Girls.—W. D. SPANTON (*Medic. Press and Circular*; rev. *Amer. Medicine*, June 4, 1904).—In examining under the microscope a fluffy mass passed by a child of three years, in whom micturition was painful, the author found it to contain woolen fibers entangled in mucus. Several similar cases presented themselves later. In all of these the trouble originated in the woolen combination suits, rather rough at the edges, which the little girls wore, some of the fibers from which had wormed their way along the urethra into the bladder. Linen fibers being smooth, this accident does not occur. With a change in garments and the use of a diuretic for a few days all trouble disappeared.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

A German View of Laboratory Feeding.—In a review of an article of Rotch's on laboratory milk modification, a well-known German pediatricist, Stoeltzner, of Berlin, has this to say (*Jahrb. f. Kinderheilk*, May, 1904): "Rotch repeats the well-known descriptions of the milk laboratories. It appears very questionable to the reviewer whether the good results obtained are due essentially, as the American authors would have us believe, to the laboratory modification *per se*. The dairies in connection with the laboratories furnish an extraordinarily clean milk, which can be shipped for great distances without previous sterilization—without any deterioration. The use of such milk, without any modification, would probably give excellent results."

Enuresis in Children.—LEWIS (*British Jour. of Children's Dis.*, No. 2, 1904) says that the diversity of assigned causes, and the varieties of treatment employed for this condition, would suggest that the pathology had not been studied very carefully.

He believes that these children are usually either anemic, bilious-looking or lymphatic. They are generally not fond of meat, and live mostly on farinaceous and saccharine foods. They are disinclined for exertion or study. They pass enormous quantities of urine at night, of low specific gravity, neutral or alkaline in reaction, and containing deposits of triple phosphates or oxalates. The bladder is probably not emptied until it is full, as the unirritating urine does not give a sufficient call to the central nervous system to waken the patient, but enough to start the necessary reflex for emptying the bladder only.

The author, therefore, treats these cases by putting them on a rigid anti-diabetic diet, from which all starchy foods are excluded. General tonic treatment is given at the same time. After the symptom disappears, starchy food is allowed for breakfast, but at no other time.

In three to four weeks ordinary diet can usually be resumed.

The author does not insist that enuresis is a condition of late rickets, but he does believe that it is a weak bodily condition, caused by excessive starchy diet, and associated with inability to properly digest that excess.

Cytoprognosis of Lactation.—LEVY (*These de Paris*, 1903, *Arch. de Med. des Enf.*) has confirmed the following observations, previously made by Weill:

(1) All corpuscles of the colostrum are leucocytes.

(2) In centrifugalized colostrum or milk a high percentage of polymorpho-nuclears is a good sign, as signifying either (in colostrum) that there will be an abundant secretion of milk, or (in milk) that a good secretion is being maintained.

(3) A high percentage of lymphocytes is a sign of bad prognostic import, so far as lactation is concerned. It would indicate the transudation of simple serum is beginning to surpass the actual secretion of milk itself. The author has studied twenty cases very thoroughly, and is able to confirm these observations by another method of investigation.

Just before the milk secretion is established, or on the day itself, the breast fluid should be carefully examined. The centrifuge should be used. A thick sediment, with a large number of leucocytes, the greater proportion being polymorphonuclears, may be taken as a sign of positive prognostic value.

A small thin sediment with predominance of mononuclear forms denotes the secretion is not apt to be promptly established, or that when established it is apt to be insufficient. It is, however, to be noted that a secretion at first poor, may improve after a longer or shorter period.

An Epidemic of Whooping Cough in the Very Young.—PORAK and DURANTE (*Arch. de Med. des Enf.*, June, 1904) report an epidemic of whooping cough occurring in the Pavilion of the Premature of the Paris Maternity.

In this pavilion the premature infants are all wet-nursed, the mothers partially nursing their own children at the same time. Each woman nurses three premature infants, in addition to her own child.

It is ordinarily stated that pertussis is rather rare under two years, and that when it does occur in very early life the mortality is very high. Commenting on this fact, the authors call attention to the peculiarities of the epidemic observed by them.

There were forty-four premature infants in the pavilion during the time of the epidemic. Among these, there occurred only *one* distinct case of pertussis. This case was fatal, however.

There were fourteen nurslings in the pavilion on mixed diet, as before explained. Of these, ten were attacked, the four who escaped being among the youngest infants of this class. The ages of the children

varied from one to ten months, only one infant being over six months of age.

Seven of the ten cases showed pulmonary complications. In two of these cases there was merely a congestion of the lungs; in the other five there was a distinct bronchopneumonia.

In view of the prevailing opinion as to the mortality of pertussis in early life, it is important to note that *not one* of these ten cases proved fatal, despite the complications in seven of the cases.

The treatment employed consisted essentially in the use of belladonna and grindelia robusta for the pertussis proper, and in the use of cool baths, benzoate of soda and acetate of ammonia for the pulmonary complications.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

Two Cases of Suture of the Olecranon; Indications and Technique of Operation.—JULES ABADIE and JACQUES DELAGE (*Revue D'Orthopedie*, May, 1904).—The question of operative treatment as against non-operative treatment is taken up and the paper points strongly to the operative method. This applies to all forms of fracture of the olecranon, old or new, simple or compound. An operative technique is fully described and illustrated which shows how to place the wires. The cases both resulted excellently. The authors' *en resume* runs thus: By the old method of treatment of fractures of the olecranon we had often to be satisfied with a mediocre functional result. We now have two methods—bone suture and immediate massage. The suture of the bone fragments is the ideal method, as it gives perfect apposition of the fragments, and it is not dangerous provided the operator, the operation and the patient are surgically clean.

For a recent simple fracture the immediate massage method of Tripier often gives good results, but it is possible that bone suture would also make these cases more sure of good result. Bone suture is necessary in open fracture or old fracture with bad union, causing ankylosis.

Silver wire should be used and movement and massage should commence eight to ten days after the operation.

The Early Operative Treatment of Tuberculous Osteitis of the Knee.—BERNARD BARTOW, M. D., Buffalo, N. Y. (*The American Journal of Orthopedic Surgery*, May, 1904).—Drawing conclusions from a series of eight very successful cases, a sufficient period of time having elapsed to make the conclusions entirely trustworthy, Dr. Bartow recommends the removal of the tuberculous focus by thorough curettage, swabbing the cavity with zinc chloride and carbolic acid, and sewing up the wound. The cases where this radical procedure is to be employed must be selected with great care; it should never be attempted where the joint is involved. The fact that tuberculous knee disease starts in the great ma-

jority of cases in the femoral epiphysis, and that its presence there can be made out by physical signs before the joint surfaces are involved, is well demonstrated in the cases presented. Dr. Bartow does not believe in placing absolute reliance in the interpretation of skiagrams, especially where this interpretation would nullify evidence derived from other trustworthy sources; unless the pictures are most skillfully taken they are of little value as operative guides.

As to the correction of malposture of the knee, he advises the division of the hamstring tendons within their sheaths in all instances where the flexor contraction does not disappear under the anæsthetic, rather than the employment of force to overcome these muscles.

In summarizing the important results of this treatment, he states that the range of preserved motion in the knee varied from complete functional restoration in one case to a limitation at 15 degrees in another; intermediate to these there was motion of from 60 to 90 degrees. Patients are reported well after a lapse of from one to three years after operation.

Fractures of the Lower End of the Radius.—VERTNER KERNEISON, A. M., M. D., Buffalo, N. Y. (*N. Y. and Phila. Medical Journal*, June 11, 1904).—This paper presents a solution of the all too frequent bad results which follow Colles' fracture. The "silver fork" deformity is not infrequently seen and a simple and sure method of reducing this deformity which a practitioner of ordinary strength can use and use alone; this, too, in spite of the patient, if he be intractable, is surely a thing of great value. The method: a skein of "Germantown Zephyr" yarn is made into a running noose; this noose is looped about the affected wrist so that the knot comes over the radial side; the other end is then made secure to a door-jam or staple on the wall. The operator then makes gentle counter traction on the forearm until the wrist is tired out, as it were; he will then find that the fracture is reduced. This method of reduction will be found to be very practical and will insure, even in the hands of those who see a limited number of cases, a perfect reduction without unnecessary force or the use of an anæsthetic. The reduction will be of such a character also that it will "stay" while a splint is leisurely applied, and will insure the patient a straight wrist without the "silver fork" deformity.

Dr. Kernerson reports several cases and illustrates his article with radiographs that bear out his claims.

Some Remarks on the Treatment and Aftertreatment of Congenital Dislocations of the Hip.—ADOLPH LORENZ, M. D., Vienna (*American Medicine*, June 18, 1904).—Dr. Lorenz says that ever since he published in his book on congenital hip dislocation his method for its reduction he has watched the ideas and criticisms of others very carefully, hoping that he might see some possible improvement in the method; the method after ten years of trial stands exactly as it did in the beginning. He can add nothing to the technic. He places himself strongly against machines to aid in reduction, especially the "Boston machine," because the operator cannot tell, as in the manual method, just how much force he is using; nor can he use the head of the femur as a probe to palpate

the fundus of the acetabulum. Cases under the age limit are "playfully easy" to reduce manually.

The position of right angle abduction, or the "primarstellung," is the one thing to be obtained, held and retained in order to be successful: he does not advocate hyperabduction, but claims that this position is the cause of the anterior displacements. Therefore, put the limb into right angle abduction, keep the limb there for six or seven months, then when exercises are started and massage of the limb begun, see that the ability to actively return the limb to this primarstellung is not lost.

In a series of six hundred and eighty hips operated upon by this so-called bloodless method, he states that three hundred and fifty-eight show good anatomic results (*i. e.*, 52.6 per cent., or a good half of the cases). He objects to increasing the upper age limit, placing it at nine to ten in single and seven to eight in double cases.

The Roentgen picture is liable to mislead in judging the results. If the functional, that is the practical, results are satisfactory he does not believe that too much stress should be laid on an x-ray photo. *Nil perfectum sub sole.*

The Silver Bolt as a Means of Fixing Ununited Fractures of Certain Long Bones.—STEPHEN H. WATTS, M. D. (*Johns Hopkins Hospital Bulletin*, April, 1904).—The case upon which this method was tried was that of a young man who was so severely injured that it was necessary to amputate one of his legs; the other presented a compound fracture of the femur at about the middle of the shaft. Here a right angle mortise was made and a silver bolt 1 $\frac{5}{8}$ inches long, 3-32 inches in diameter, run through and the nut screwed tightly down. Union took place and after several months the patient was able to use the leg perfectly; an x-ray photo shows the perfect apposition of fragments obtained and held.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Hereditary Syphilitic Tabes (Juvenile Tabes).—WILLIAMSON (*Review of Psychiatry and Neurology*).—Three cases are here reported, girl aged eight, boy aged thirteen, and a girl aged seventeen. All three patients were blind owing to primary optic atrophy. In two cases there was evidence of congenital syphilis: in the third case congenital syphilis was probable, the father having suffered from the disease.

The Treatment of Epilepsy Without Bromide.—HALMI (*Psychiatrische-Neurologische Wochenschrift*, May 21, 1904).—In treating epileptics by means of the so-called salt starvation method, the author observed that the bromides used produced very marked results even when the dosage was considerably reduced. This was interpreted as the result of a bromide intoxication and as a necessary result of the bromide treatment

when the Na Cl was taken out of the daily food. In order to test the accuracy of this observation a certain number of patients who had been under this treatment for a period of time were gradually deprived of their daily amount of bromide while they were still under the salt starvation diet. As the bromide was reduced the salt was increased so that the patients were unaware of the substitution. The results of this experiment were very encouraging. The number of attacks and the physical condition showed marked improvement. The author concludes that it is possible to treat epileptics without bromide if the interest of the patient is kept up by well adapted suggestion and employment. (The results here recorded were obtained in a psychiatric clinic.)

Tabes and Tabo—Paralysis in Childhood and at the Age of Puberty.—HAGELSTAM (*Deut. Zeit. für Nervenheilkunde*, Vol. 26, No. 3).—The author has collected forty-five cases in the literature, and in this number he adds three of his own. From a study of these cases and the three here reported, he concludes that tabes and tabo-paralysis develops in the child as a consequence of an heredity or of an early acquired syphilis. An hereditary history is much more frequently found in these cases than in the adult cases. In the great majority of the cases tabes, tabo-paralysis or cerebral syphilis is found in the antecedents. It also appears that in this age the female sex is more frequently attacked with the diseases than in the adult.

Points of Resemblance Between Paralysis Agitans and Arthritis Deformans.—W. G. SPILLER (*University of Pennsylvania Medical Bulletin*, May, 1904).—Attention is called in this interesting paper to the occurrence of arthritic symptoms in the way of arthritis deformans in a case of paralysis agitans in which the tremor was limited to the right side. In this case the spinal cord was rigid and there was a marked kyphosis of the cervico-thoracic region. The autopsy showed no lesions of the nervous system sufficiently pronounced to explain the symptoms of paralysis agitans, but marked changes were demonstrated in the spinal vertebrae. This paper is important because it suggests a relation more or less intimate between the degenerative changes in the osseous system and the resulting symptoms on the part of the nervous system, which at first appear to have nothing in common.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

The Operative Treatment of the Hypertrophied Prostate.—WATSON (*Ann. Surg.*, June, 1904).—In this excellent article Watson gives a very complete historical review and summary of operative methods and modifications in prostatic hypertrophy. Gouley was the first to deliberately and clearly formulate a plan for the removal of the entire gland

from the perineum. Albarran appears to have been the first to introduce the prostatic tractor, rapidly followed by Symms, Delbet, De Pezzer, Lydston and Young.

Watson regards the choice of operations to be limited to these four.

1. The palliative operations of perineal and suprapubic drainage.
2. The Bottini.
3. The total removal of the hypertrophied lobes by perineal operations.
4. The same by the suprapubic and the combined operation.

It is interesting to note that the author believes that no harm accrues from injury or removal of the prostatic urethra, and while the whole gland cannot be removed leaving the urethra behind intact, yet the greater part of it may be removed without injuring the urethra. The most important factor for or against radical operation is the renal function. The operation should be performed much earlier than we are accustomed to apply it. Under conditions in which there is nothing to prevent a free choice of methods the total removal of the gland by the best of the perineal technique is that of choice. If the perineal route is not applicable, the suprapubic is the operation of choice, and when contra-indications are present which make this operation undesirable, the Bottini becomes the operation by choice, and when the patient's condition is such as to make any of the above three methods inappropriate, and we are obliged to do something, we will do a palliative operation for drainage.

The Problems of the Technic of Ureteral Catheterization.—HOLISCHER and SCHMIDT (*Jour. A. M. A.*, June 4, 1904).—In this very replete consideration of the subject the technic of ureteral catheterization is considered. The various kinds of instruments devised, their advantages and disadvantages are described and illustrated; and the authors present for consideration, and prefer for use, their modification of Brenner's ureteral cystoscope, which is one of direct view, is a convenient size, allows of catheterizing both ureters at the same sitting, and of leaving both catheters in place after the cystoscope is removed. It, furthermore, permits the use of catheters with injection attachment at the distal end.

Renal Redecapsulation.—EDEBOHLS (*Med. Rec.*, May 21, 1904).—This case was one of right and left, chronic interstitial nephritis, with infection. While the patient made an uninterrupted recovery from double renal decapsulation, the infected nature of the condition did not improve but rather, after awhile, became enhanced. Not quite two years later, the patient developed anuria with convulsions. When he had but a few hours to live, the new capsule which had formed about the kidneys after decapsulation was removed through operation on both kidneys. This started the urine to flow, but was done too late to counteract the uremia, the patient dying five hours later in uremic coma.

Surgery of Nephritis.—EDEBOHLS (*N. Y. and Phila. Med. Jour.*, May 21 and 28, 1904).—Edebohls here presents renal decapsulation in all its principal phases and endeavors to meet the criticisms that have been

made upon it since its promulgation. In the experience of the author a new capsule is formed after renal decapsulation, but it is vascular and non-contractile. He advises the operation for anyone who has the reasonable expectation of life of not less than a month without operation, provided: there is a clear and unequivocal establishment of the diagnosis of chronic Bright's disease; that there is an absence of absolute contraindication to any operation; and that the surgeon is reasonably familiar with surgery of the kidney. The operation is indicated in all varieties of chronic nephritis, even marked changes in the heart and blood vessels disappearing after it. Those cases with albumenuric retinitis have been very discouraging to the author. He still finds cases of unilateral nephritis. While the future may find some medical means of curing these diseases which may make renal decapsulation a memory, yet, for the present, applied early in the course of a chronic nephritis and in the absence of complications, it is almost free from danger in expert hands, and is almost a certain cure.

A Consideration of the Surgical Treatment of Chronic Bright's Disease from the Ophthalmic Standpoint.—SUKER (*N. Y. and Phila. Med. Jour.*, June 4, 1904).—Decapsulation of the kidney for chronic Bright's disease, the writer regards as absolutely contraindicated in such cases as present a retinitis or a neuroretinitis, with or without hemorrhages. The death rate of this class of cases under the best medical treatment is about 75 per cent. for the first year and 85 per cent. for the second, scarcely any subjects surviving three or four years; while in cases operated upon it is 100 per cent. for the first year (from reported cases.)

The Medical Aspect of Decapsulation of the Kidneys for the Cure of Chronic Bright's Disease.—ELLIOTT (*N. Y. and Phila. Med. Jour.*, June 4, 1904).—The following conclusion is offered:

1. Chronic Bright's disease in its development constitutes a diseased condition of the entire system.

2. It is a disease of very gradual development, and in the great majority of cases, has existed for months and years before the patient comes under observation.

3. It is produced by a chronic toxemia, either systemic or infective in origin, which produces coincidently as a result, widespread arterial and cardiac degenerative changes, which, being once established, are permanent, and in their development eventually constitute the most threatening element of the disease.

4. General edema or anasarca in chronic renal disease is in many instances in great measure a cardiac dropsy, brought about by advancing myocardial degeneration. It is occasionally so in chronic parenchymatous nephritis, and almost invariably so in chronic interstitial nephritis,

5. It may be stated that, in like manner, developing anuria and uremia in chronic nephritis may be largely cardiac in production, the functional inadequacy of the kidneys having its inception in the fall of blood pressure incident to circulatory failure.

6. In the latter stages of chronic nephritis, of whatever character, the

case is apt to take on these cardiac aspects, which virtually convert the therapeutic problem into a question of sustaining a failing heart.

7. Albuminuric retinitis must be looked upon as one of the terminal symptoms of chronic nephritis. The concurrence of opinion places a limit of two years upon the prognosis after development of this complication. The statistics gathered by Suker of cases operated on, show that, in place of prolonging this limit of expectancy, operation has a decidedly contrary effect.

8. It is to be borne in mind that chronic nephritis is a disease of slow and spasmodic development. It is well to realize its exacerbations and remissions, so as to avoid the error of mistaking remissions for cures.

9. The mere fact that the general condition of the patient improves somewhat after decapsulation does not establish the validity of the operation, for hygiene and rest will do the same for the patient to a remarkable degree in many cases. As the factors of hygiene and rest are invariably associated with the surgical procedure, it is possible that the resulting benefit may, to some extent, accrue from those sources.

10. The results of experimentation demonstrate that, within a period of three months and a half after decapsulation, a new, and in most cases a tougher, fibrous envelope has taken the place of the original capsule. This fact may account for the many relapses and deaths after that period in cases operated on, and in chronic cases, at least, it narrows the prospect of improvement to a period of months.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

The Internal Administration of Ichthyol in Three Cases of Mycosis Fungoides.—MENAHEM HODARA (*Monatsch. für Prakt. Derm.*, Band 38, No. 10).—The first case of mycosis fungoides was in a woman sixty years old who had had the disease for seven years. The case presented all the typical appearances of mycosis fungoides, large tumors, thickened patches of skin, etc. The patient has taken the drug intermittently in one-half to one gramme doses, in capsules, three years, with improvement.

The second case, a man of forty, was a lighter form of the disease, with thickened plaques and papules and marked pruritis. The patient was given one-half to one gramme daily of ichthyol three to four months. The plaques were painted with ichthyol collodion. There was some improvement, but he was lost sight of.

The third case was in a man sixty-five years old. He was given the same doses of ichthyol as above, with great improvement.

Some New Therapeutic Results in the Treatment with Radium and Radio-Active Bodies.—DR. FOVEAU DE COURMELLES (*Le Progrès Médical*, May 28, 1904).—The writer reported four cases treated with radium, namely, one case of epithelioma of the tongue, two cases of epithelioma

of the skin and one case of epithelioma of the vagino-uterine junction. In epithelioma he obtained supple and smooth cicatrices. The other two cases were greatly improved. The author remarks that for cancers in certain positions, as in the mouth and esophagus, radium in tubes is particularly applicable.

Cornu Cutaneum of the Trunk.—DR. ROCHARD (*Gazette des Hopitaux*, May 26, 1904).—This was an unusually large horn, which occurred upon a sebaceous cyst measuring 8 cm. in height and fixed upon a base of 67 cm. Its period of evolution was uniquely long, occurring in a woman of sixty-two, having existed since she was of the age of fifteen.

Developmental Defects of the Skin and Their Malignant Growth.—HENRY G. ANTHONY, M. D. (*Journal of the American Medical Association*, June 18, 1904).—This is Dr. Anthony's (chairman) address for the section of cutaneous medicine at the fifty-fifth annual session of the American Medical Association, and it is a very excellent dissertation upon this important subject, and is well worth a careful perusal. In speaking of the mooted subject the definition of nevus, Dr. Anthony remarks: "In my opinion the word nevus should be used simply as a term of clinical convenience to designate any mark on the skin present at birth or developing shortly after birth, regardless of its histologic structure and without any attempt at scientific accuracy. This is still the accepted use of the word in other branches of medicine, and it should continue to be employed in this sense in dermatology. Any expansion in the meaning of the word in dermatology will cause as much confusion as does the double meaning of the word tubercle. As a term to designate deep-seated deposits the word nodule should be employed, and we should use the expressions nodular syphilide and nodular leprosy rather than call these lesions tubercular syphilide and tubercular leprosy. To avoid all confusion of the nomenclature and misuse of the word nevus it would be advantageous to employ the expressions developmental defects of the skin to designate all abnormal conditions of intrauterine origin which are not due to disease of the fetus. There are two classes of cases, misplacements and anomalies of development. Under the latter class we would recognize anomalies of hair and nails, of keratinization, of pigmentation, of blood vessels, of fibrous tissue and some other forms."

On the Surgical Importance of the Visceral Crises in the Erythema Group of Skin Diseases.—DR. WILLIAM OSLER (*Medical Record*, May 14, 1904).—Dr. Osler, before the Association of American Physicians at the nineteenth annual meeting, held in Washington, May, 1904, called attention to a subject which is of the greatest importance in tracing the relationship between the erythema group and certain obscure affections of the viscera, probably of similar origin. He states that the possibility of mistaking these visceral crises for appendicitis, intussusception or obstruction of the bowel, and handing the patient over to the surgeon for operation, is by no means remote. He gives a history of three cases in which laparotomy was performed, and draws from them the following practical lessons: First, in children with colic the greatest care should

be taken to get a full history, which may bring out the fact of previous attacks either of skin lesions, arthritis or intestinal crises. Secondly, there should be made the most careful inspection of the skin for angio-neurotic edema, purpura and erythema. It should also be remembered that recurring colic may be for many years the sole feature of this remarkable disease, and the obscurity of the attacks of colic may not be cleared up until the appearance of the skin lesions. In one of the cases here reported the intestinal crises in combination with arthritis and the renal features left no doubt as to the diagnosis. Dr. Osler says that in the next attack there may be purpura or angio-neurotic edema, or an acute nephritis may occur alone. The colic is the most constant of the visceral manifestations, occurring in twenty-five of the author's twenty-nine cases. It seems never to be dangerous. In no case recorded has death resulted from intestinal causes.

Vaccine and Vaccination.—DR. GEORGE DOCK (*Bulletin of the Johns Hopkins Hospital*, April, 1904).—Under the sub-heading of "Some Aspects of American Vaccine Virus," the author remarks that it might be supposed that the makers of vaccine virus would not sell inferior preparations, but experience shows that this is not so. Dr. Rosneau, of the United States and Marine Hospital Service, has demonstrated that practically all the vaccine virus sold in this country has an unnecessarily large bacterial contamination, and although his observations show that improvements have taken place since he began his work, results are still far from satisfactory. Weak specific action has an important bearing on the practical use of vaccination. With the best vaccine we expect to produce immunity lasting for several years, if not, as was once hoped, for a lifetime. With the less effective virus the immunity is shortened from a few weeks to a few months, and, on the whole, is very imperfect. The writer remarks, that if the general government can furnish pure seed to farmers and the separate states can regulate the sale of oleomargarine and other commercial products, vaccine should easily be put under public control provided, of course, that the wishes of the people were not thwarted by the unseen but powerful influence of lobbies, supported by those who preferred to keep the industry in their own hands. This point, to the abstractor, seems to be of great importance on account of the various contributing factors which go to make up a good virus and a good protective vaccination.

A Case of Recurring Membranous Stomatitis, Associated with Erythema Exudativum Multiforme (Hebra).—LOUIS B. BLAIR (*Medical Record*, May 7, 1904).—This occurred in a boy of twelve. It began as numerous sores in the mouth, resembling the mucous patches of syphilis, upon the gums, hard palate, tongue and buccal surfaces. There was extensive salivation, bad odor and the lymphatic nodes and glands were enlarged. The sores were covered with a well-marked, thick membrane. The tongue was swollen and swallowing was difficult. Six days after the beginning of the stomatitis an erythematous rash appeared on the surface of the body, on the extensor surfaces. The conjunctiva assumed a diphtheria-like invasion and the eyes were closed. Upon the face the eruption was confluent, like variola. There were also blebs scattered

over the body, becoming hemorrhagic and pustular. The patient had several recurrent attacks similar to this one. Bacteriologically, only cocci were found, probably staphylococcus pyogenes aureus. The case is unique on account of its mucous membrane lesions and of the eyes.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Ozaena Cured by Behring's Anti-Diphtheritic Serum.—TARNOWSKI (*Deutsche Medicinische Wochenschrift*, June 2, 1904) reports two cases of ozaena cured, or practically cured, by subcutaneous injections of diphtheria antitoxin. In the first case only one injection of 1,500 units was required. In a second case two injections were given within a period of eight days. In both these cases the sense of smell returned and all crusting ceased. In a third case, one of forty years' standing, several injections were made with the result that there was no more crust formation and the patient was able to breathe very much better. In this case the sense of smell did not return.

The Treatment of Menieres Disease.—VERAGUTH (*Muenchener Medicinische Wochenschrift*, May 17, 1904).—Two cases of Menieres symptom-complex are reported by the author in which he obtained excellent results by galvanization. The first case was due to a luetic involvement of the labyrinth, and the second case was thought to have followed an attack of "grippe." The cathode was placed on the neck and the anode on the ear. In the first case the current was never above one and one-half m. a., while in the other case patient did not react until eight m. a. were given. The galvanizations were given daily for a period of four to six weeks, after which both patients were able to attend to their vocations.

Removal of the Semicircular Canals in a Case of Unilateral Aural Vertigo.—LAKE (*Lancet*, June 4, 1904).—The patient, a woman, aged twenty-one, had been the subject of aural vertigo combined with sickness and vomiting, with gradual increasing deafness and tinnitus for the past five years. In spite of all treatment the attacks grew worse and increased in frequency, until they occurred almost daily. On February 16, 1904, the patient was placed under a general anesthetic and the mastoid was opened in the ordinary way. The malleus and incus were removed. The semicircular canals were removed with a burr and a medium-sized opening was made into the vestibule. The wound was then closed by the ordinary methods. Considerable shock followed the operation and for the first forty-eight hours there was marked cerebral irritation. On the seventh day the patient sat up. From that time on she improved gradually until the fourth week, when she was able to do everything without danger of falling. There has been no return of the trouble and the patient enjoys better health than ever before.

Neuroses of Nasal Origin.—MAKUEN (*American Medicine*, June 4, 1904).—After briefly referring to a number of forms of neuroses that have been relieved by nasal operations the author states it is reasonable to suppose that, though not absolutely proven, some of the most serious mental and cerebral diseases may be of nasal origin. Many so-called nasal reflex neuroses may be explained on the theory of faulty respiration and impaired cerebral circulation due to direct intranasal pressure and the absorption of toxic catarrhal products through the blood and lymph. The writer holds that a careful examination of the nose is imperative in all doubtful cases of nervous disease.

A Consideration of Speech Defects.—BROWN (*Jour. A. M. A.*, May 28, 1904).—Speech defects are usually observed first between the ages of five and fifteen. Heredity has been proved to take little part in the etiology. Among the primary causes first observed in children are: fear, timidity, a fall or ill-treatment. Imitation lies at the bottom of many conditions, as in childhood this faculty seems to be more highly developed than at any other time. The modern authorities on this subject seem to consider the various causes that have been mentioned, but pay particular attention to abnormalities of the upper respiratory passages. Makuen is quoted as stating that whooping cough, measles, diphtheria, smallpox, and hereditary history of consumption and insanity are important causal factors. The same writer is also quoted as having reported cases which were due entirely to the presence of adenoids.

The continuous production of voice is the essential of speech. To accomplish this, a strong, unbroken stream of sound is necessary, and no mouth action should be allowed to interfere with the throat sound. There is no trick or particular method that is applicable in all cases. If possible the cause should first be ascertained, and then treatment instituted for ultimate relief. In many cases the main point to be remembered is the easy passage of air, with attention to proper placing of the voice, that being the material of speech, and should not be impeded in any way. Self-observation and control, eradication of spasmodic action, together with patience and perseverance, will in many instances permanently overcome the distressing, embarrassing impediment in speech.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

A Case of Recurrent Paralysis of the Third Nerve.—L. WERNER (*Ophthalm. Rev.*, May, 1904).—The patient, a twenty-year old unmarried country woman, had suffered since childhood with periodical attacks of headache and vomiting, lately occurring every month. The pain was of dull, heavy character and confined to the right frontal and temporal regions and right eye. Vision unaffected. No scotomata or flashes of light. Three years prior to coming under observation such an attack culminated in complete ptosis of the right eye. During the time the patient remained in bed (six weeks) there was a continuous slow dribbling of water from the mouth. Recovery was complete except that she has never regained the power of reading with the right eye. For two years she was free from eye symptoms when she began to see double and the ptosis reappeared. Recovery from the second attack was complete, but the "bilious" attacks continued.

Examination a year after the last attack showed some dilatation of the pupil and inability to read as the only symptoms. The personal and family history did not throw any light on her condition.

The pathology of the disease is still purely speculative. A lesion of the third nerve has been found in three or four of the periodically progressive cases (of which the present case is an example), but this of course fails to explain the other phenomena. Werner accounts for the symptom complex on the assumption of an accumulation of toxins in the system, either originating from gastro-intestinal derangements or introduced from without.

The Association of Cataract with Uncinariasis or Hookworm Disease.—A. W. CALHOUN (*Ophthalmic Record*, April, 1904).—Calhoun has observed the association of cataract with uncinariasis in five cases. Lens changes began six to twelve months after the appearance of the first symptoms of the general disease. In all cases the ova were found in the stools. Operation in a number of cases was followed by an uneventful recovery.

Some Guiding Principles of Ophthalmic Practice as Regards a Few of the Common External Diseases of the Eye.—D. T. VAIL (*The Cincinnati Lancet-Clinic*, May 21, 1904).—In hordeolum and acute chalazion, moist warm applications, frequently repeated for several days, should be followed by incision and evacuation with a small chalazion spoon. The patient should wear smoked glasses and wash the eyes frequently with a warm boric acid solution.

In marginal blepharitis, the dried formation along the lid margins should first be removed by soaking with hydrogen peroxide or warm soda bicarbonate solution, aided by gentle curettage. Nitrate of silver (10 per cent.) or a solution of carbolic acid is then applied. The patient

should use a solution of warm boric acid at home and apply to the lid margins a 1 per cent. yellow oxide ointment.

In acute conjunctivitis the cardinal principles are: gentle cleansing of the eyes externally, cold applications, the use of antiseptic drops, (boric acid, formalin, bichloride or argyrol) and the application of a mild ointment to the lid margins. Such measures are carried out by the patient at home. In addition silver nitrate solutions should be applied by the surgeon.

Abrasion of the cornea should be treated by a roller bandage after the conjunctival sack has been thoroughly cleansed with warm boric acid solution. It is often advantageous to insert a little vaseline. Cocaine is contraindicated as it unquestionably retards the healing of epithelium. A foreign body imbedded in the cornea should be removed as soon as possible. If an abrasion is present the case should be treated with a roller bandage.

In phlyctenular keratitis the blisters should be "wiped off" by means of a carrier wound with moistened absorbent cotton. Calomel should then be insufflated. If the base of the little ulcer be infected, silver nitrate or yellow oxide ointment should be used. Internal treatment is important.

In corneal ulcer the treatment will depend largely on the type. Should the ulcer show a tendency to spread, the application of pure carbolic acid or the actual cautery is indicated. In the superficial varieties the treatment suggested for phlyctenular keratitis is often successful.

A Case of Persistent Edema of the Eyelid Due to Syphilis.—E. F. SNY-DACKER (*Arch. of Ophthalm.*, March, 1904).—A mulatto, thirty-three years old, presented a painless edema of the left upper lid. It began four months previously and had gradually increased. The globe was unaffected and there was no diplopia.

The palpebral fissure was greatly narrowed, the lid overhanging the cornea, so that only the lower fourth of the latter was visible. The skin was red and very edematous. On palpation the infiltration appeared to be homogeneous and imparted a sense of doughlike resistance. The left preauricular gland and the cervical and epitrochlear glands were enlarged. The lachrymal gland could not be palpated. Lachrymal region not tender. The nose was normal. A history of syphilis seven years before was elicited.

Under mercurial inunctions and potassium iodide the edema disappeared entirely.

A search of the literature revealed only one other case presenting analogous symptoms. Snydacker believes that edema was due to a gummatous infiltration in the subcutaneous tissue. Another possible explanation is that there existed a tarsitis, the enlarged tarsus being masked by the palpebral edema. A luetic origin for a persistent edema of the lids should always be suspected.

SOCIETY PROCEEDINGS.

ST. LOUIS SURGICAL CLUB.

Meeting of January 8, 1904.

INTUSSUSCEPTION.

Dr. Charles H. Dixon read a paper with the above title, for which see page 414.

Dr. Jonas said he had been so fortunate as to see one of these cases in the Bethesda Hospital. Dr. Saunders had asked him to see the case just before Dr. Dixon saw it. He examined the young patient and found that the signs of obstruction had disappeared. In one of the later attacks Dr. Dixon operated on the patient. The speaker thought that of the symptoms of intussusception there were especially three symptoms important, of which the other symptoms were more or less the result, namely: absolute constipation, vomiting, and bloody evacuations. These three symptoms are the ones on which the diagnosis should be based. He thought Dr. Dixon was entirely correct in his statement that one should not expect to find a sausage-shaped tumor. These exist only in books. One of the methods of medicinal treatment used in Prof. Henoth's clinic in Berlin was the enema of ice water. The success sometimes following this treatment proved it to be of practical importance. If medicinal treatment is not successful, one of the following plans may be carried out, provided that at the operation reduction could not be accomplished: (1) Establishment of an artificial anus without resection. (2) Resection of the involved intestine and establishment of an artificial anus. (3) Resection of the involved intestine and end to end anastomosis. (4) The best method, however, is recommended by Barker, and has given the best results. The principle of the operation is the excision of the intussusceptum through a cut made in the intussusciptions.

Dr. Willard Bartlett said there were two or three points of interest in connection with the pathological anatomy of the subject. The first was called to mind by the method of Baker, which was nothing more than an imitation of nature. In this process the gangrenous portion is sloughed completely off and passed. In one case, recently reported, there was a history of intussusception followed by the discharge of a slough, portions of which could be identified as being of the ileum, cecum and the angle of the ileocecal valve. In the etiology it is interesting to note that at the head of the column has been founded the inverted appendix. This brings to mind the suggestion of Dr. Baldwin, to invaginate the appendix. He says that if it is found impossible to invert the whole of the appendix, the mucosa may be invaginated. The gentleman had evidently not heard that that condition was one of the chief causes of intussusception. That fact should prevent the surgeon from ever trying to invaginate the appendix. Nearly an inch is invaginated in making the purse-string suture. It might be that enough is invaginated in the little that is turned in to cause trouble. To avoid this, after ligating the mesentery of the appendix, tie this ligature to the purse-string suture. This is done by Dr. Will J. Mayo, and it would certainly seem to have some tendency to keep the gut from invaginating itself into the colon.

Dr. V. P. Blair said that he had noticed in some journal an account of an experiment that was interesting in this connection. The abdomen of a rabbit was opened and bicarbonate of soda, or some other irritant, was placed on the peritoneal surface, producing intussusception. It had always struck him as peculiar that after a resection

there is no intussusception. He had recently examined a case in which the diagnosis was doubtful. Tucked away under the liver there was found a tumor, but he was satisfied that it was the head of the pancreas, after careful examination. They finally decided that it was a case of entero-colitis, and the child got well. He had seen one similar case in which the child had been taking large doses of bismuth for forty-eight hours, and the stools were not blackened. That is one of the symptoms in cases of obstruction where bismuth has been given.

He had recently seen an account of a case in which the child fell asleep while waiting for the surgeon to come, and the symptoms of intussusception disappeared before his arrival. He did not understand Dr. Dixon's statement that a wait of two and a half days would usually raise the mortality from 50 to 100 per cent., because it was understood that those cases usually cured themselves. It is the general teaching among the English pathologists that almost all extensive colics in infants are due to intussusception.

Dr. Dixon, in closing, said that when intussusception lasts over two and a half days gangrene is likely to supervene, and the minute it does, the mortality goes up from 50 to 100 per cent. As to Barker's method, it is an imitation of nature. He puts in first a Lembert suture at the site of the invagination, then, after incising the gut near the invagination, draws out and cuts off the invaginated portion, then closing the incision. The mortality of the operation has been very much lessened. Making traction on the gut in reducing the invagination is wrong. No traction whatever should be made on the gut. The minute traction is produced on the proximal end the constriction is increased. That is why the gut often gives way at the point of constriction. If, on the other hand, the gut is taken at the distal end and pressure made upon it at that point, it will unfold. Distention by water does the same thing that the hand does, but the method is bad because one does not know the condition of the gut.

BOOK REVIEWS.

SCHMERZVERMINDERUNG UND NARKOSE IN DER GEBURTSHILFE, mit specieller Beruecksichtigung der Combinirten Scopolamin-Morphium Narkose. Von DR. RICHARD VON STEINBUECHEL. Verlag von Franz Deuticke in Wien. 1903. Price, \$1.00.

The Egyptians, the Greeks, the Chinese and Japanese, many centuries ago, endeavored to relieve the sufferings of the parturient woman by the use of certain narcotic substances, but it is only of late that systematic efforts have been made to give to women in labor the benefit of our advanced knowledge in the administration of narcotics and anesthetics. The author gives in this monograph a historical resume of the use of drugs during labor, and considers critically all the various methods used at the present day. A considerable part of this essay is devoted to a detailed report of the writer's experience with the scopolamin-morphine anesthesia, first suggested by Schneiderlein in 1900. His results with hypodermic injections containing 0.01 gram of morphium muriaticum and 0.0003 to 0.0004 gram of scopolaminum hydrobromicum are very satisfactory. The consciousness of the patient remains undisturbed by the use of this dose, but her sensibility is reduced to such a degree that almost all the obstetrical operations can be performed without difficulty. There is no interference with the normal progress of labor, no perceptible danger to either mother or child. The writer concludes this very interesting essay with a plea for a wider use in obstetrical work of the scopolamin-morphine anesthesia.

THE LYMPHATICS. General Anatomy of the Lymphatics. By G. DELAMARE. Special Study of the Lymphatics in Different Parts of the Body, by P. Porier and B. Cuneo. Authorized English Edition, translated and edited by Cecil H. Leaf, London. With 117 Illustrations and Diagrams. Chicago: W. T. Keener & Co., 90 Wabash ave. 1904.

This volume of 300 pages forms a section of the Treatise of Human Anatomy edited by P. Porier and A. Charpy. It is divided into two parts. The first, dealing with the general anatomy of the lymphatic system, is written by Delamare. This part contains a complete and most comprehensive consideration of the form elements of lymph and of the anatomy of lymph glands and lymph vessels. The second part is devoted to a study of the lymphatics in the different regions of the body, and is written by Porier and Cuneo. The names of these authors are sufficient guarantee of the care and accuracy bestowed on their respective subjects.

With the steadily growing interest of the profession in the vexing cancer problem, a thorough knowledge of the histology and function of the lymph, and especially of the arrangement and distribution of lymphatic vessels and glands, becomes more and more essential every day. In both these subjects the present work considerably extends our knowledge. Its careful perusal is emphatically recommended to every surgeon and gynecologist.

THE LAW IN ITS RELATION TO THE PHYSICIAN. By ARTHUR N. TAYLOR, LL. B., of the New York Bar. D. Appleton & Co., New York. 1904.

That portion of the field commonly known as medical jurisprudence has received the attention of many able writers, with the result that nearly every question of law requiring elucidation as to its medical aspects has been worked out and is accessible to the lawyer. Singularly neglected, however, in the writer's opinion, is that portion of the field which relates to the needs of the physician. He is left without reliable information regarding his legal rights and liabilities, and, therefore, the author has attempted to place in this work, within the reach of every physician, a systematic treatment of those questions of law which present themselves most frequently in his professional work.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., assisted by H. R. M. LANDIS, M. D. Volume II. June, 1904. Lea Brothers & Co., Philadelphia. Six dollars per annum.

This volume contains the following articles: Surgery of the Abdomen, Including Hernia, by William B. Coley; Gynecology, by John G. Clark; Diseases of the Blood; Diabetic and Metabolic Diseases; Diseases of the Spleen, Thyroid Gland and Lymphatic System, by Alfred Stengel, and Ophthalmology, by Edward Jackson.

As usual, the articles are not mere abstracts, but monographs, which carefully consider the world's literature. The department of pathology, which was missing in the March volume, is still outstanding. We trust that the publishers do not really intend to omit this important part of their publication.

TECHNIQUE DU TRAITEMENT DE LA COXALGIE. Par le DR. CALOT, Paris, Masson et Cie, Paris.

The subject of hip disease is thoroughly covered from early diagnosis to convalescence. There is little in the book that is new to the American surgeon, especially if he be interested in orthopedic work, but the careful arrangement of the book, the definite reference to all the small details of treatment, and the illumination that the 178 illustrations throw upon the text, make the book a valuable possession.

Of particular interest is the chapter on the application of plaster spica bandage to acute hips for ambulatory treatment. Instructions are also given in another chapter as to the making of the celluloid spica.

On the operative treatment, a good deal of importance is given to aspiration of abscess. The technique is given in minute detail. The various forms of osteotomy are described, as is also resection of the joint.

LEHRBUCH DER GEBURTSHILFE FUER AERZTE UND STUDIERENDE, VON DR. PAUL ZWEIFEL, Professor der Universitaet, Leipzig. Fuenfte, vollstaendig umgearbeitete Auflage, mit 237 Abbildungen im Texte. Verlag von Ferdinand Enke in Stuttgart. 1903. Preis: Mk. 14.

Zweifel's well known text-book on obstetrics has just appeared in its fifth edition. In order to bring this book up to date the author has practically rewritten the volume. Thus it represents in its new form a concise but complete expose of the present status of obstetrics. The exceedingly rational arrangement of the text matter makes it an ideal text-book for the student. Its thoroughness renders it most valuable as a reference book for the practitioner.

WUERZBURGER ABHANDLUGEN AUS DEM GESAMTGBIET DER PRAKTISCHEN MEDIZIN. Herausgegeben VON PROF. JOH. MUELLER und PROF. DR. OTTO SEIFERT. Verlag von A. Stuber, in Wuerzburg. 12 Hefte jaehrlich. Preis: Mk. 7.50. G. E. Stechert, New York.

This publication consists of independent monographs which appear monthly. They are written by eminent teachers of German universities, each presenting a clear resume of the present status of an interesting medical topic.

Volume III contains the following essays:

"Intestinal Diseases of the Nursling," by Trumpp; "Diseases of the Myocardium," by Gerhardt; "Otogenous Diseases of the Brain," by Brieger; "Use of the Colpeurynter in Obstetrical and Gynecological Practice," by Bollenhagen; "Treatment of Internal Hemorrhages with Special Consideration of Gelatine," by Boltenstern; "Post Partum Hemorrhages," by Burekhardt; "Bronchial Asthma," by Schmidt; "Diseases of the Esophagus," by Starck; "Indications for Surgical Interference in Gastric Injuries and

Diseases," by Burckhardt; "Deafness and Dumbness," by Maas, and "Treatment of Tuberculous Joints in Childhood," by Hoffa.

The following monographs of Volume IV have appeared:

"Diseases of the Rectum," by Schmidt; "Serum-Diagnosis," by Rostoski; "Clinical Significance of Gastro Intestinal Meteorismus," by Stein; "Sclerosis and Atheromatosis of the Arteries," by Geigel, and "Prevention of Insanity," by Weygandt. An abstract of this last monograph can be found in the June number of this journal.

MANUAL OF DISEASES OF THE EYE. For Students and General Practitioners. By CHAS. H. MAY, M. D., Late Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York, etc. Third edition, revised. With 275 original illustrations, including 16 plates with 36 colored figures. New York: William Wood & Company. 1903. 12mo, 410 pages.

May's well-known manual, which has now reached a third edition, hardly needs an introduction to the student of contemporary ophthalmic literature. It is comparable neither to the inadequate quiz-compend, nor to the extended treatise, but occupies a position between these two. The problem of determining what to include and what to omit in a book of such limited dimensions (408 pages) has been solved by the author, whose long teaching experience has given him an admirable sense of the proper emphasis to apply to the various topics of his subject. Dr. May has succeeded in presenting the greatest number of facts in the least number of words consistent with clearness.

The illustrations, which are for the most part original, have been drawn without unnecessary detail. Special mention should be made of the excellence of plates II and III, depicting the proper method of everting the upper and lower lids, and of plate IX, illustrating the method of applying the copper crayon and the operation of expression in trachoma.

Plate IV, illustrating in colors the examination of the media by oblique illumination and ophthalmoscope, will give the student a fairly adequate conception of the appearance of the different forms of corneal and lenticular opacity under these methods of examination.

The work has attained the unusual distinction of being translated into German.

A DICTIONARY OF MEDICAL SCIENCE. Containing a full explanation of the various subjects and terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Bacteriology. Pathology, Surgery, Ophthalmology, Otology, Laryngology, Dermatology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, etc., by ROBLEY DUNGLISON, M. D., LL. D., late Professor of Institutes of Medicine in the Jefferson Medical College of Philadelphia. New (twenty-third) edition, thoroughly revised, with the pronunciation, accentuation and derivation of the terms, by THOMAS L. STEDMAN, A. M., M. D., Member of the New York Academy of Medicine. In one volume of 1,224 pages, with about 600 illustrations, including 85 full-page plates, with thumb-letter index. Cloth, \$8.00, net. Lea Brothers & Co., Philadelphia and New York.

The twenty-third edition of Dunglison's Dictionary retains all of the good features that this work has always possessed and contains all that a medical dictionary can hold of information necessary for the definition of medical terms. As the editor says in his preface, "it is not expected to fill a long felt want, for its existence has obviated

the possibility of such a want." The addition of a thumb-letter index is a great convenience.

A PRACTICAL TREATISE ON NERVOUS DISEASES. By F. SAVARY PEARCE.
D. Appleton and Company, New York and London.

This is a small treatise by the late Dr. Pearce. It is designed for students and general practitioners. A short work of this kind always presents points for criticism. The brevity of the descriptions naturally leaves many important points untouched and others unduly exaggerated, in this respect this is common with other books of the same class shares.

EPILEPSY AND ITS TREATMENT. By WILLIAM P. STRATLING, M. D.,
Superintendent of the Craig Colony for Epileptics at Sonyea, N. Y.
Handsome octavo volume of 522 pages, illustrated. Philadelphia,
New York, London. W. B. Saunders & Company. 1904. Cloth,
\$4.00 net.

This treatise on epilepsy is bound to be received with favor by those whose work brings them in constant relation with the many varieties of this disease. Its special features are the unusual material upon which it is chiefly based and the attempt which is made to furnish a pathology for the disease derived from a study of post-mortem material of status epilepticus. There are some other features which deserve attention. The chapter on the results of surgical treatment in traumatic and other forms of the disease is one of the most instructive. The consideration of auras is an index to the broad spirit in which the book was conceived. There is included among the chapters devoted to treatment one on the relief of eye strain in the lessening or the cure of epilepsy. The extravagant claims of some oculists in this respect are here refuted and the refutation is embodied in a permanent form, for Gould was given an opportunity to test his theory on the material of the Craig colony, of which the author was the medical director. The absolutely false premises on which this theory of the causation of epilepsy was based, it is to be hoped, receives here its final condemnation. It may be questioned whether the chapter on the surgical treatment of epilepsy might not well have been omitted as the pure surgical details have no special interest for the readers of this sort of a book. As an authoritative exposition of our present knowledge of epilepsy set down in attractive and readable way the work of Stratling can be strongly recommended.

A TEXT-BOOK OF MODERN MATERIA MEDICA AND THERAPEUTICS. By A. A. STEVENS, A. M., M. D., Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal and St. Agnes Hospitals, Philadelphia. Third edition, greatly enlarged, rewritten, and reset. Handsome octavo of 663 pages. W. B. Saunders & Company. 1903. Cloth, \$3.50 net.

Since the appearance of the last edition of this book such rapid advances have been made in materia medica, therapeutics and the allied sciences, that the author has wisely rewritten the entire work. He has altered the general plan of the book considerably, and instead of considering the drugs in alphabetical order, as in the previous editions, he has classified them according to their pharmacologic action. This arrangement, notwithstanding the present unsettled state of pharmacology, possesses certain advantages in that it aids the student to correlate established facts, and to apply them more readily to the treatment of disease.

The part devoted to therapeutics has evidently undergone a thorough revision; and we note that all the newer remedies which have been shown by the competent observers to possess real merit and to be worthy of a more extended trial at the hands of the profession have been considered.

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ORIGINAL ARTICLES.

DIAGNOSTIC CONSIDERATIONS OF HEMORRHAGE FROM THE STOMACH.

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The diagnosis of hemorrhage from the stomach will have to be divided into:

- (a) Gastric hemorrhage without hematemesis.
- (b) Gastric hemorrhage with hematemesis.

(a) Gastric hemorrhage without hematemesis is at times difficult to diagnose; it may be either acute or chronic. In the acute, the symptoms of internal hemorrhage are present, usually ushered in with pain, nausea, or a sense of warmth and fullness in the region of the stomach.

With or without the occurrence of previous symptoms of stomach disorder.

Collapse and death may rapidly ensue, or recovery, more or less perfect, may take place; in such cases melena or hematemesis may occur as a later development.

Chronic gastric hemorrhage without hematemesis, is not so rare or uncommon. There is usually a history of some more or less distinct gastric disorder, and an examination of the bowel movements, sometimes a painstaking one, will reveal the presence of blood.

The origin of this melena will be largely conjectural, as to whether it comes from the stomach or some part of the intestinal canal.

If red in color and not coagulated it can be considered as coming from the lower bowel; if dark and tarry it may come from any part of the upper intestinal tract or the stomach, and this can rarely be decided without the clinical history. Small chronic hemorrhages present few symptoms; long continued, they give rise to anaemia; the larger hemorrhages cause these symptoms to appear sooner.

(b) The diagnosis of gastric hemorrhage with hematemesis, is usually a simple matter, especially so when compared with those cases in which this symptom is absent; and with the diagnosing of the particular lesion giving rise to the flow of blood.

The color and the consistency of the vomited blood may differ materi-

ally. It may be bright red in color, and then is necessarily liquid; then the bleeding is rather profuse and not retained within the stomach for any length of time; or the vomited blood may be dark and coagulated, resembling tar, this alteration being due to the action of the gastric juices in transforming the hemoglobin into hematin.

This condition indicates that the blood has been retained for some time within the cavity of the stomach, and the probability is that the hemorrhage has been a slow one. The blood may be mixed with the stomach contents, or it may be vomited alone. It may be ejected with considerable force, or may merely "come up" with no expulsive effort on the part of the patient.

These attacks are sometimes accompanied or preceded by pain, nausea or vomiting; again, there may be no premonition as to what is coming, but usually there is a sense of fullness and warmth in the epigastrium before the blood makes its appearance.

The diagnosis must include:

1. The exclusion of different, similar conditions.
2. The exclusion of false hematemesis.
3. The determination of the pathological condition causing the hemorrhage.

1. The condition most frequently confused with hematemesis will be hemoptysis, the coughing of blood.

In the writings of "Aretaeus, the Cappadocian," who was a contemporary of Galen, is to be found the first attempt at a differentiation between the vomiting and the coughing of blood. At this early date is given a remarkably accurate differentiation between these two varieties of hemorrhage, to which but little has been added up to the present time.

A most concise modern outline is given by Welch as follows:

HEMOPTYSIS.

1. Usually preceded by symptoms of pulmonary or cardiac disease. Bronchial hemorrhage, however, without preceding disease, is not rare.

2. The attack begins with a tickling sensation in the throat or behind the sternum. The blood is raised by coughing, and vomiting, if it occurs at all, follows the act of coughing.

3. The blood is bright red, fluid or but slightly coagulated, alkaline, frothy and frequently mixed with mucus. If the blood has remained some time in the bronchi or a cavity it becomes dark and coagulated.

HEMATEMESIS.

1. Usually preceded by symptoms of gastric or hepatic disease; less frequently by other diseases.

2. The attack begins with a feeling of fullness in the stomach, followed by nausea. The blood is raised by vomiting, to which cough, if it occurs, is secondary.

3. The blood is dark, often black and grumous, sometimes acid, and usually mixed with the food and other contents of the stomach. If the blood is vomited at once after its effusion it is bright red and alkaline, or it may be alkaline if it is effused into an empty stomach.

HYMOPTYSIS—*Continued.*

4. The attack is usually accompanied and followed by localized moist rales in the chest, and there may be other physical signs of pulmonary or cardiac disease.

5. Bloody sputum continues for some time, often for days after the profuse hemorrhage ceases.

HEMATEMESIS—*Continued.*

4. After the attack the physical examination of the lung is usually negative, but there are symptoms and signs of gastric or hepatic disease.

5. Black stools follow profuse hematemesis.

With this schematic presentation of the subject in mind the usual case will be easily identified.

But as showing the difficulty that may be experienced in differentiating obscure cases, the following instances will be instructive:

No less an authority than Maurice Richardson, in 1900, speaks of "a recent case, referred to in a paper before the Maine Medical Society, on acute abdominal symptoms demanding immediate surgical intervention, violent pain in the epigastrium of a man of forty-nine, suddenly occurred during convalescence from a fracture of the leg. Had not the man been moribund when I saw him I should have opened the epigastrium for the violent pain, vomiting of blood, tenderness and distension with which he had been suffering.

"The autopsy showed nothing abnormal in the abdomen, the death having been caused by multiple infarcts of the lungs."

Watkins, in his "Diagnosis by Means of the Blood," cites a case of supposed hemoptysis due to a supposed "Consumption." The blood examination, in this instance, eliminated tuberculosis, and a diagnosis of gastric ulcer was made. Recovery followed after one year's treatment.

And Heineman says: "In 1889 I made an autopsy at the Mt. Sinai Hospital upon a woman twenty-two years of age, who had died after twenty-four hours illness of sudden and large hemorrhages, the nature of which was doubtful, but which were supposed to be hemoptysis. At the autopsy some blood was found in the lungs and the stomach contained over a litre.

"Although my notes say that a superficial erosion nearly 2 cm. in diameter was found near the cardiac end of the stomach, involving the mucous membrane only.

"It was attributed to post-mortem changes, and for want of a better diagnosis, bronchial congestion with resulting hemorrhage was entered upon the record with a question mark."

2. By false hematemesis is meant the vomiting of blood which has its source outside the stomach, into which it flows and then from which it is vomited.

The blood in these cases is vomited from the stomach quite properly, but it comes from the stomach secondarily, not primarily.

Duodenal ulcers may give rise to vomiting of blood, and, strictly speaking, they might be called false hematemesis, but such a differentiation is almost always impossible without a laparotomy, and as the treatment is practically the same, whether the ulcer be in the stomach or the duodenum, they are, as a rule, considered together.

Epistaxis, hemoptysis, trauma, ulceration or carcinoma of the esophagus all may give rise to hematemesis of this character, but are usually differentiated by the history and careful examinations.

A case of Janowski's, mentioned by Fuhs, bears upon this phase of the subject:

Patient entered his service because of profuse hematemesis and melena. She complained of dryness of the esophagus, which increased after meals and was of some weeks' duration. Never vomited before, but had nausea at various times. For the last three years had pains in the left side of the abdomen.

An examination of the pulmonary organs was negative.

An examination of the stomach contents was made to determine positively whether the bleeding was caused by gastric ulcer or tumor. The fasting stomach contents revealed nothing. Therefore the patient was given a test meal, which was removed after an hour, and a minute after the removal of the tube the patient died.

Though the analysis of the stomach contents were normal, a diagnosis of ulcer of the stomach was made, and gastric hemorrhage was thought to be the cause of death.

However, the autopsy showed an aneurysm of the arch of the aorta that had perforated the esophagus, causing the first hemorrhage, which ceased through the closure of the opening by a blood clot. The stomach tube, which was used in the second examination, tore off this clot, causing the patient's death.

Esophageal "piles" and varicosities of the veins at the esophageal opening, due to cirrhosis of the liver, are frequently the cause of false hematemesis.

As to the diagnosis of this condition, the quoting of two from Preble's eight conclusions might not be inappropriate:

"The hemorrhages in this class of cases are usually preceded by other symptoms of cirrhosis, but the first symptom may be a fatal hemorrhage."

And again: "In one-third of the cases the diagnosis can be made at or before the time of the first hemorrhage. In the other cases the diagnosis cannot be made at all or only after a few months or years, during which time other symptoms of cirrhosis have developed."

Thus showing a very unsatisfactory condition from a diagnostic point of view.

With the false hemorrhages from the stomach must be included those rare cases of malingering, in which blood is swallowed, and then vom-

ited before others, for some reason, such as to avoid a distasteful duty, to excite pity, or a strange manifestation in the hysterical or the insane.

Certain foods, drinks or drugs may cause a discoloration of the vomitus, which may be mistaken for blood; but in cases of doubt as to the nature of the coloring matter, the microscope will usually be sufficient to settle the identity of blood: the spectroscope, or the test for haemin crystals, may also be employed if necessary.

Webber's test for small amounts of blood is as follows: Take filtered stomach contents and glacial acetic acid, equal parts, shake with ether, remove ethereal layer, and add fresh tincture of guaiac, ten drops, and spirits of turpentine twenty drops. A blue color is produced; the addition of chloroform makes the blue color more pronounced.

Hartmann has found that this test is reliable, *only*, after the exclusion of meat from the diet.

3. A determination as to the precise nature of the pathology of the lesion giving rise to hemorrhage, is of the utmost importance from the standpoint of treatment and prognosis.

Ulcer is the most common cause of hematemesis, and one's thought turns naturally to ulcer in all cases. Yet there are certain other conditions which must be excluded before a conclusion that the bleeding is coming from an ulcer, is arrived at.

Carcinoma must be considered: In the later stages of carcinoma there are numerous marked differences, but these are then too late to be of practical value.

In the early stages, it is practically impossible to diagnose, or to differentiate from ulcer.

This differentiation is extremely difficult in some cases, with all the clinical data, even after a laparotomy which allows of ocular and digital examination, and even in cases where sections of the tissue have been submitted to microscopic examination.

This striking similarity, in some cases, is explained by the fact that from 5 per cent. to 10 per cent. of the gastric ulcers undergo a malignant degeneration.

Erosions, fissures, bleeding patches, or acute ulcerations are to be differentiated from the more usual form of ulcer. Hemorrhage from the former conditions, while profuse and apparently overwhelming, usually terminates favorably under medical treatment.

This variety of hematemesis should be recognized as such, if possible, as its recognition would have a marked influence upon, both the line of treatment to be pursued and upon the prognostication as to the termination.

Moynihan has very forcibly emphasized the necessity of recognizing this difference.

Its importance has also been brought out by Sir Dyce Duckworth, who

considers the sudden and profuse and successive hemorrhages, with a lack of previous history, as being characteristic of erosions, as distinctive from simple ulcer of the stomach.

But other observers, while equally anxious to find some substantial differential points, have failed to confirm these observations.

It may be said, as the *Lancet* does editorially: "A sudden and profuse hemorrhage from the stomach is *much more likely* to result from an erosion than from a gastric ulcer."

The other, less common, lesions that may give rise to hemorrhage, must be recognized for the very apparent reason that the treatment will differ radically from that in which a vessel is eroded by an ulcer.

The clinical history is the chief guide to their discovery. A painstaking examination of all the thoracic and abdominal viscera, with a careful history, should always be undertaken before the cause of a gastric hemorrhage is determined upon.

In many cases an accurate diagnosis of the condition is absolutely impossible with our present means and methods. Under such circumstances an exploration is demanded. In case of doubt explore, upon the supposition that the chances are greatly in favor of the lesion being something amenable to direct treatment.

FRACTURE OF THE FOREARM FOLLOWED BY CONTRACTURE OF THE FLEXOR TENDONS—REPORT OF A CASE.*

BY CLIFFORD U. COLLINS, M. D., Peoria, Illinois.

M. H., aged seven, living at Vandalia, Ill., was playing on a hay stack ten feet high, on March 16, 1903, and fell off breaking, both bones of the left forearm at the juncture of the upper and middle thirds. Dr. M., of Vandalia, was called and applied anterior and posterior splints, and a small interosseous splint, all of wood padded with cotton, which were bandaged snugly to the arm. The splints were removed in three weeks and judging from all appearances a good result had been secured. There was good union and an almost normal contour of the arm.

But the parents soon noticed that the thumb and fingers were closing down into the palm of the hand, and there was little or no sensation in the third and fourth fingers. An effort was made with massage and manipulation to overcome the condition, but it became worse in spite of all efforts.

In June he was brought to the St. Francis Hospital, of this city. A photograph of the hand was taken (Fig. 1) which shows the position of the thumb and fingers when the hand was extended. When the wrist was flexed the fingers could be made straight, but the fingers and wrist could not be extended at the same time. The finger nails showed de-

* Presented to the Peoria City Medical Society, May 17, 1904.

generation, the entire hand was small and blue and showed a lack of nourishment, and there was no sensation in the third and fourth fingers. A skiagraph was taken (Fig. 2) which shows a faulty union of both



FIG. 1.

bones, but the ulna seemed to be causing the most trouble, judging from the facts that the muscles flexing the fingers lie more to the ulnar side of the forearm, and the third and fourth fingers, the fingers supplied by the ulnar nerve, were anesthetic.

On June 11th a longitudinal incision was made along the posterior surface of the forearm over the ulna. The muscles and fascia were separated from the bone except at the point of fracture, where it was impos-

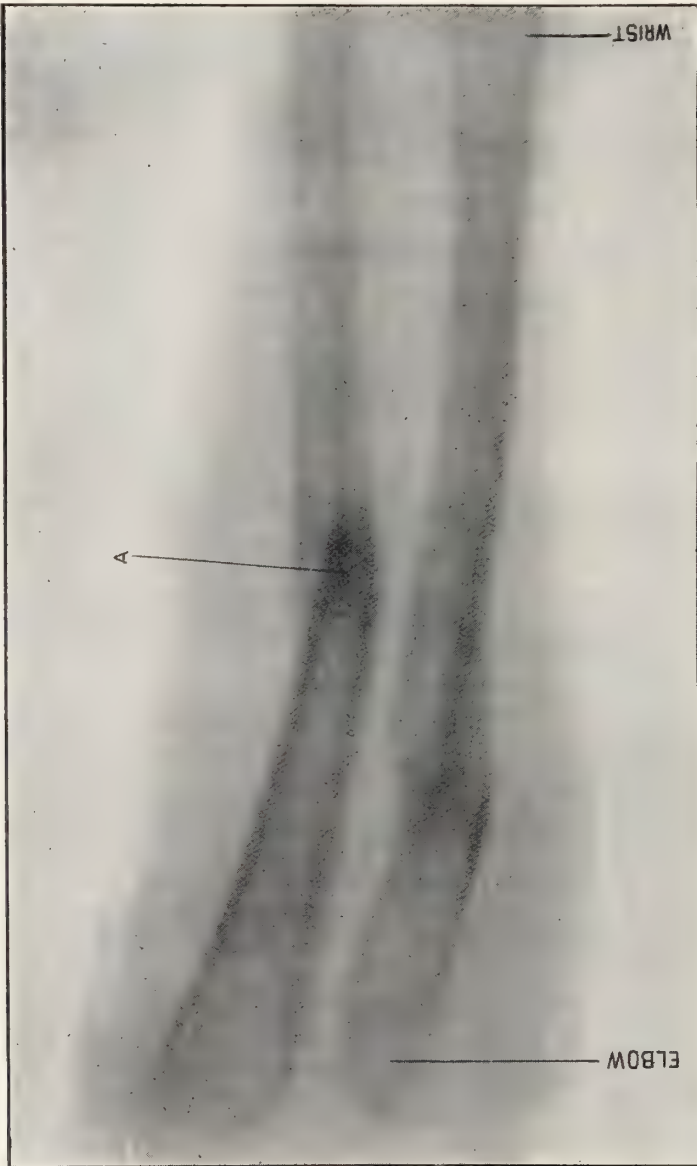


FIG. 2.

sible. The muscle and fascia had been transfixated by a sharp fragment of the ulna (see "A" in Fig. 2) and a portion was caught in the callus and had to be cut before the muscle could be freed. A partially organized hematoma, about three centimeters in diameter, was found in the

muscle near the site of the fracture and removed. So there were two conditions contributing to the crippled condition of the hand, the transfixing of the muscle by one of the fragments and the internal pressure between the splints of the hemorrhage causing the hematoma, and neither of these conditions could have been discovered by the x-rays.

The bone was sawed through at the point of fracture with a Gigli saw, and the ends were trimmed off and united in a better position with two aluminum-bronze wires. The muscles and fascia were separated from the fractured point of the radius as much as was possible through



FIG. 3.

that incision. While he was under the anesthetic his fingers were forcibly extended considerably, but it was impossible to extend them completely. The fascia and skin were united with two longitudinal aluminum-bronze wires. The forearm was placed lightly in an ulnar splint of perforated tin.

The skin and fascia wires were removed on the fifth day, union being complete. The patient left the hospital for his home on June 20th. An earnest effort was made from then on to overcome the contracture by massage and manipulation of the hands and fingers. After the ulna

had united the muscles of the forearm were thoroughly massaged each day.

Sensation returned to the third and fourth fingers and the general condition of the hand became much improved, but the boy could not extend the fingers.

On August 17th, at the patient's home in Vandalia, an incision was made in the middle of the anterior surface of the forearm two inches long, beginning at the wrist. The tendons of the flexor profundus digitorum were lengthened by the ordinary stair step method and the ends united with catgut. This was not sufficient, so the tendons of the flexor



FIG. 4.



FIG. 5.

sublimis digitorum were also lengthened. Then all the fingers could be completely extended without any resistance. The tendons of the thumb were left alone as its condition had improved greatly under the massage.

The incision in the skin was closed with a continuous buttonhole suture of black silk. Union occurred by first intention and in ten days the boy could move his fingers. The improvement from then on was rapid and very satisfactory. Figures 3, 4 and 5 were taken about January 1, 1904, with the fingers extended, flexed and holding a glass of water, thus showing how completely the usefulness of the hand was restored.

Volkman accurately described the condition found in this case and

termed it "ischaemic paralysis." As regards the prevention of this condition, all the surgeon can do is to carefully follow the ordinary rules governing the application of splints. The splint should be as light as possible consistent with the work it has to perform; it should be removable so as to permit of massage of the limb, and it should not press unduly upon any part of the limb. The bandage should hold the splint firmly and snugly without constricting the limb at any point.

If the surgeon is not satisfied that the fragments are in close apposition, the point of fracture should be cut down on and the fragments adjusted under the eye. So often a portion of muscle will be found between the fragments. In one case the writer found a large vein preventing the adjustment. If the vein had not been removed from between the fragments the union would have been faulty and in a few hours the coats of the vein would have been eroded and the case further complicated by the presence of a large hematoma.

While the fragments are exposed they may be fastened together with screws, plates, nails, pegs, wire, or chromicised catgut, according to the needs of the case or the predilections of the surgeon. The writer prefers aluminum-bronze wire. The rules governing asepsis should be rigidly followed. Rubber gloves were used in both operations in the case reported.

It should be stated in this connection that two physicians were in attendance when this fracture was splinted and the above rules were duly followed. The contour of the arm was normal and as far as appearances indicated the bones were in good apposition.

The transfixing of the muscle and fascia by one fragment, and the consequent fastening of one portion by the callus thrown out between the fragments, was a prime factor in causing the condition in this case. And added to it was the presence of the hematoma. Cheyne and Burghard, in their *Manual of Surgical Treatment*, Vol. II, page 198, say that "hemorrhage into a muscle may be followed by a variety of troubles; it may lead to adhesion of the muscular fibers to each other, or to fibrosis and consequent impairment of function." The hematoma, forced out by the blood pressure, also increased the pressure between the splints.

In the treatment, massage of the forearm and hand and manipulation of the fingers should be given a trial. It is claimed that it will relieve a large per cent. of the cases. In this case it was given an earnest trial and failed. Possibly if the patient had been old enough to have intelligently worked in conjunction with the surgeon, more could have been accomplished. However, it is difficult to see how massage could have freed the transfixed muscle.

Lengthening of the flexor tendons has been suggested, but this will not give a serviceable hand if the etiologic conditions in the forearm were not removed.

Resection of the radius and ulna has also been recommended. A piece of each bone is removed to sufficiently compensate for the shortened tendons, so that when the bones are united the fingers can be straightened. At the same time the conditions causing the trouble, such as a hematoma, a transfixed muscle, or an excessive amount of callus, can be removed. This method of treatment leaves a deformity—a shortened forearm—and relaxes muscles and tendons that are not involved in the difficulty.

It appears to the writer that the rational method of treatment would be to use manipulation of the fingers and massage of the forearm and hand. If that fails to relieve, cut down on the point of fracture and remove the causative conditions found there. Remove any excessive callus or hematoma. Release the tissues from the bones at the point of fracture. Saw through both bones if it is necessary in order to do this. Reunite the ends of the bones. Then at the same time, or later, make an incision just above the wrist and lengthen the contracted tendons: remembering that rigid asepsis is just as necessary in this case as in a laparotomy.

This treatment leaves no deformity and should result in a useful, serviceable arm.

THE SURGERY OF ARTHRITIS DEFORMANS.*

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SYNONYMS—RHEUMATOID ARTHRITIS, OSTEO-ARTHRITIS.

Before going into the immediate subject of this paper it will be well to settle at the start just what cases are to be labeled arthritis deformans. Up to a comparatively recent period there have been included under that general head two classes of cases, the one more acute in character, characterized by febrile exacerbations, spindle-shaped swellings, joint effusions, muscular atrophy, and occurring in young persons; the other essentially chronic, presenting usually symmetric lesions, attacking the smaller joints, occurring later in life, with no constitutional disturbance and very little pain, its principal feature being disfiguration and limitation of joint movements, due to bony outgrowths.

The tendency in the most recent modern literature appears to be to restrict the term arthritis deformans to the latter, chronic, group of cases, and to view the former, acute, group as a thing apart, perhaps identical with Still's disease, which is defined as a chronic progressive enlargement of the joints, associated with enlarged lymphatic glands and spleen, and again, perhaps identical with what Royal Whitman calls the polyarthritis of children.

* Read before the Orleans Parish Medical Society, June 25, 1904.

Assuming this conclusion to be correct, let us, before proceeding to the surgical aspect of this disease, review briefly the etiology, pathology and general treatment of the disease,

Etiology.—A. E. Garrod and R. L. Jones, both of whom appear from their writing to have made a painstaking study of the disease, unite in attributing to disturbed nervous function a prominent part in the production of this disease. The former calls it a dystrophy; the latter attributes its source to a toxemia that has a segmental action on the spinal cord, leaving in doubt the question of the autogenous or heterogeneous nature of the toxemia.

Jones calls attention to the frequent coincidence of arthritis deformans and exophthalmic goiter, and of the same disease with tetany, both associate diseases involving the nervous system; other writers (Walsham among them) speak of physical and mental strain as causes of this disease; the athlete, who subjects his physical mechanism to too great stress in his strenuous pursuits, and the over-zealous brain-worker, sacrificing everything to ambition, forgetful of rest, of family, of social and civic duties, are alike subjects to arthritis deformans.

It is believed by some that the cause of this disease may yet be found to be an infection entering through a neglected atrium in the alimentary or some other apparatus.

Pathology.—The articular cartilages appear to be first involved, wearing away and exposing the articular bone underlying them. This may become eburnated from its exposure; on the other hand, union of the exposed bone ends may take place, Garrod speaking of bridges of cancellous bone tissue being identified between the denuded articular surfaces, while Markilwicz describes three cases of chronic ankylosing inflammation of the spinal column. The bones also give off exostoses which greatly impede the joint movements, this contributing largely to the inconvenience and discomfort caused by the disease.

R. L. Jones considers the particular swellings due to vasomotor disturbances. Jones also believes there is an undue tendency to centralize the disease in the joints to the unfair exclusion of muscular and sensory involvements; he fails, however, to give us information as to the pathology of these last named lesions.

Distribution.—While the disease tends to attack the smaller joints by preference, invading the temporo-maxillary articulation and converting the hands into knotted and gnarled masses, it by no means confines its ravages to these joints. The vertebral column is not allowed to escape: the shoulder is at times affected. The probability is that when this disease will have been studied with greater thoroughness it will be found that no joint is entirely free from this slow but persistent affection.

Diagnosis.—The tendency to symmetry, to attack the smaller joints, to occur later in life, the absence of constitutional disturbances, the moderate severity of the pain, the disfiguration and limitation of joint move-

ments by bony outgrowths, serve to distinguish the disease from gout, and, if I may be permitted to employ the term, acute rheumatism.

From the latter arthritis deformans is specially distinguished by the rare occurrence of endocarditis as a complication.

Heberden's nodes are frequently observed, a majority (nineteen out of twenty-seven) of the patients seen by Merrins with this lesion having arthritis deformans. Crackling in the joints on manipulation is said to be a symptom of value, this arising from the rubbing together of the roughened articular extremities. R. L. Jones speaks of the deep reflexes as uniformly more brisk on the diseased side. As the disease is usually symmetrical, he perhaps means the side more diseased. The phenomena described by him do not seem to conform to any particular law, and the observation in its present state is not applicable in a useful way. Pain is present in the muscles as well as in the joints of the same moderate character.

General Treatment.—Writers agree in recommending care of the general health, open air exercise, good food, avoidance of physical and mental strain. Removal of any possible atria of infection should be effected when indications exist. Arsenic and cod liver oil may be given internally. Locally, hot air and massage are generally commended. As to the use of passive movements of the joints opinions differ. A. E. Garrod says passive movements of the joints do more harm than good. E. J. Cave recommends forced movements under anesthesia.

Surgical Treatment.—This may be said to exist rather “in posse” than “in esse.” Dr. R. M. Van Wart, in discussing the subject in a conversation, suggested that the obstructing and disfiguring outgrowth might be chipped off. This might be temporarily effective in badly crippled joints, giving an immediate improvement which might be kept up by attention to the general line of treatment given above. Again, ankylosed joints might be subjected to resection. But such interference would have to be tentative. If the disease is mainly dystrophic, as would appear most likely, the traumatism might leave the patient less well off than before on account of diminished powers of resistance and low healing power.

Experience will point the way in this matter as in all others.

Another form of possible surgical interference is the transplantation of tendons, to correct deformities of joints, due to the disease under consideration. An interesting instance is given by M. Moullin, who transplanted the insertion of the biceps femoris tendon for persistent contraction of the knee joint in a case of rheumatoid arthritis, as he calls the disease. Beyond the possible correction of joint deformities by osteotomy, by resection, by tendon transplantation, the field afforded the surgeon by the disease under consideration does not appear to be specially inviting or large.

In concluding this paper I wish to specially thank Dr. R. M. Van

Wart for his assistance, especially in the matter of bibliographic suggestions.

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PLASTIC SURGERY.

By C. E. RUTH, M. D., Keokuk, Iowa.

While plastic surgery concerns the replacing of skin and mucous membrane defects in various parts of the body, my own experience with it of the most trying kind, has been in replacing the loss of tissue in the face. Where flaps may be undermined and a direct approximation of the margins made by stretching, the result is usually satisfactory, provided, due attention is given asepsis and tension on sutures is avoided. Defects of the skin can usually be closed by immediately grafting or as soon as vigorous, clean, small granulations appear. Much time is lost and annoyance caused by attempts to graft on a suppurating surface. Grafts of epithelium only are almost worthless because their vitality is so slight that they are constantly being lost from a slight injury, weeks and even months after repair is well advanced. Grafts, which include the entire thickness of the skin, but have no fat globules on their under side to interfere, will, under favorable conditions, not only grow, but give a degree of strength and resistance much more nearly approximating that of the skin which formerly occupied the place. Where the loss of tissue is so great as to open up the cavities of the face, as antrum, nares and mouth, the difficulties are many times increased. It is worse than folly in such cases to close in the defect with skin of which the underside is a raw surface attached to nothing. Such a flap will discharge pus indefinitely and grow a large mass of granulation tissue into the cavity and probably never cicatrize. To avoid such consequences it is necessary to line all such flaps with an epithelial layer of the skin and place a second flap upon this with epithelium out so that the two layers of skin are used with only marginal connection for their blood supply. Such flaps, however, with their raw surfaces in contact will usually unite with each other, and if reasonable care is exercised regarding their blood supply they will also unite at their margins and add greatly to the patient's comfort and happiness. When, however, it is

impossible to perfectly line such a flap with a complete epithelial surface to take the place of the mucous membrane, much may be accomplished by turning in the epithelial margin of the defect as far as possible, thereby giving a partial, marginal, epithelial lining, from which the epithelium will grow toward the center and so close the opening, if it is not too large. This plan will greatly lessen the subsequent contraction in the cicatrizing process in the cases in which it is justifiable to use this plan. When but one thickness of skin can possibly be secured, it is best that it shall always be placed with the epithelial side inward, provided it can be done without twisting or otherwise endangering the vitality of the flap by interfering with its nutrition. A flap so placed with its raw surface outward and having a good marginal connection and satisfactory blood supply throughout can take grafts so as to give good results in many otherwise hopeless cases. A serious drawback sometimes encountered is the difficulty of procuring such flaps by any device free from hair where they can be inverted or where they are to cover parts of the nose or upper part of the cheek. This difficulty is necessarily greater with men than with women. In one case, I had no difficulty in lining the cheek with smooth skin from the forehead, but was compelled to put on a flap over this extending to the top of the nose which was covered with a heavy beard. When possible, the pedicle should be left permanently attached to the flap, but in two cases where I have lined the nose and cheek with flaps brought down from the forehead I have covered this with an outside flap from some other part of the face, later, separating the pedicle to the forehead flap and replacing the base of the same, including the eyebrow, in its normal position on the forehead greatly lessening the deformity thereby and aiding materially in closing the graft area of the forehead. An additional disadvantage in these cases is the impossibility of maintaining anything like thorough asepsis. On this account the most perfect drainage must be constantly maintained.

In my first case, the right half of the upper lip, all of the right cheek to within one-third inch of the ear and to the middle of the body of the lower jaw was gone, together with the superior maxillary bone, except its posterior surface. The antrum, nares and mouth were therefore one cavity with cicatricial tissue extending far out at points over the margins of the enormous gap. In all, seven distinct operations were necessary to close in this defect. First, the remnant of the upper lip was separated from its underlying connection and brought as far as possible to the right, the lower lip was divided vertically and part used to bridge out the upper lip so it would extend far enough to the right to complete the angle for the mouth on the right side. A neck flap was then brought up and sutured into the remaining gap after raising and turning in the cicatricial margins for epithelial lining as far as possible. Heat was applied for five days, but in spite of this precaution one-third of this flap was lost. The entire right side of his forehead was next raised as

a single flap with its pedicle carrying the temporal artery and nerve supply left attached and the entire flap was used to close in the rest of the defect with entire success. The base of the pedicle was set into the tissues as it crossed horizontally below the zygoma and was never detached. Small, minor, secondary operations were required to close a couple of fistulous tracks and to cure the ectropion of the right eye. This case remains well after almost four years and the deformity is not great.

In my second case the destruction of tissues included all of the right one-half of the upper lip and cheek to within one inch of the eye and ear, most of the superior maxillary bone, soft tissue to the lower margin of the inferior maxillary and destruction of part of the inferior maxillary on the right side. Worse still, the carcinoma, for the cure of which the destructive agent had been applied, was still active, involving the right half of the tongue well down to its base and soft tissues were also infiltrated on the inner side of the remaining inferior maxillary. As a preliminary step in this case the right half of the tongue was excised with two inches of the inferior maxillary and all discoverable, sub-maxillary and sub-lingual glands were removed at the same time. In the removal of the tongue I was much aided by drawing the same well forward, then transfixing it with a needle passed through the soft parts above the hyoid bone and close against its superior border at its middle, emerging at the superior border of the attachment of the epiglottis. The needle was next carried from within outward, passing in front of the external carotid artery, but above the origin of both the facial and lingual. By aid of this needle a silk thread was made to carry a wire so that all the vascular supply of the base of the tongue was perfectly controlled without danger of cutting the constricting agent accidentally by knife, scissors or cauterizing point. The vessels were readily taken up individually as desired.

In this case, I was able to practically close up the defect at a single sitting by forming the angle of the mouth somewhat as in case one, exact vertical division of the lower lip and securing a flap from the remnant of tissues on the cheek and neck having a good blood supply so that almost no tissue was lost. The plan of inverting epithelial, cicatricial, marginal tissue was followed in this case. The importunities of this poor fellow to close the defect and stop the discharge of saliva induced me to make the repair of the cheek prematurely before I had sufficient assurance of the permanency of the recovery from carcinoma. The result was a recurrence after one year, not recognized until beyond operative or other relief.

While case three is a very simple and safe one, as compared to cases one and two, consisting of the loss of tissue $1\frac{1}{2}$ by 2 inches at the left angle of the mouth, I found it extremely difficult on account of the fact that I could not by any amount of planning obtain a

lining sufficient to cover the inside of the cheek entirely free of hair, though I used all the cicatricial margins I could by inversion, as well as all available buccal mucosa. In spite of all my care some hairs were inverted and have caused quite a little annoyance. The deformity is very trivial.

Case four had lost all the bony and some of the cartilaginous part of the nose. In this case a lining was made by splitting the tip of the nose and turning the same upward after inverting the freshened margins for attachment. Flaps were next brought up from each cheek without twisting and a nose was formed which was practically free from deformity except that it was low in the middle. The scars of the cheek were infinitesimal.

Case five was, all things considered, the most trying of any I have undertaken to deal with, because he had lost not only all the right half of the upper lip, all of the right cheek to the eye above, to the body of the lower jaw below, soft parts, to within one inch of the ear, but he had also lost the upper part of the superior maxillary on the right side, part of the malar bone and nearly all of the nose. The angle of the mouth was formed much as in case two, marginal scar tissue inversion was practiced in this case as in cases one, two and three for the first flap, which was taken from a small strip in front of the ear and from the neck to close in the lower part of the gap. The flap was allowed to become inverted at its upper inner margin and fold upon itself where free of hair to form its own lining where the marginal inversion could not be made to reach. To procure a lining for the remaining nasal space free from hair the right half of the forehead was raised with the pedicle, very broad, attached from the median line to the middle of the eyebrow. To procure adequate blood supply it was necessary that its pedicle include both the supra-orbital and supra-trochlear arteries as the latter's reinforcement from the angular had been previously destroyed. On bringing down this flap it was found too short to reach the nasal tip and it was necessary to vertically divide the eyebrow, by which means the flap was secured in proper position reaching to the point desired without tension. The entire surface of the left cheek, which was free from hair was now brought across to the right side to cover the flap brought down from the forehead and to complete the formation of the nose. The pedicle of this flap received its blood supply from near the inner canthus of the left eye. Both these flaps gained their attachments without difficulty. The only trouble we now had to meet was to secure a right nostril with any satisfactory capacity. As we had no cartilage there was a marked tendency to contraction and collapse. Eversion of both lower eyelids was pronounced and had to be met in the left eye by bringing down a small flap from the forehead and filling in the lower lid. Redundant tissue from the new nose was utilized to raise the right lid. As soon as sufficient time had elapsed to procure good union of both lining and

outer flap of the nose the base of the lining was sectioned and turned back on the forehead so as to replace the eyebrow and narrow as much as possible the cicatrization space from which the flap had been taken above the eye. There remained redundant tissue at each side of the base of the nose which required removal. The results of this case I am happy to show you by consent of the subject himself. I am assuredly not anxious to again undertake the formation of a new cheek and nose for the same individual.

Case six represents a patient from whom the left half of the nose, the upper and outer portion of the superior maxillary, part of the upper lip, part of the malar bone and all of the left eye had been removed. In this patient, I was again compelled to utilize the forehead for lining of the cavity. This was accomplished without unusual difficulty. The margin of the entire wound was, of course, raised and inverted to give as broad attachment of the margin of the flap as possible. The remaining portion of the left cheek in front of the ear and as much of the neck tissue as was required to close in the defect were next raised and sutured in place on the external raw surface of the forehead flap. Union in this case was in every respect satisfactory except at the nasal tip. Later, when satisfied that the union was sufficiently strong to make no trouble, the pedicle of the lining was sectioned, the base of the same replaced to form the eyebrow and cover a portion of the forehead. A serious mistake was made in returning too much of this flap to the forehead, as it left the rest slightly short and caused a defect one-eighth by one-half inch of gap at the upper margin. Otherwise the results are perfectly satisfactory in every way, save that the left half of his nose is covered with a heavy beard. I am sorry that I have not been able to secure a photograph of this patient since operation. However, the defect is very slight, barring the loss of the eye on the left side.

All these cases have come into my hands as the result of the work of a cancer cure company, located about one hundred and sixty miles north-east of my home. This company has followed its mutilating business for several years, with very considerable success as to the number of patients treated and also from the standpoint of cure, provided, the cases were really malignant. The evidence as to this, however, is not forthcoming except, probably, in one or two cases. If we knew whether or not these patients had carcinoma or sarcoma we could better judge as to the merits of the treatment. The material used is sufficiently destructive and, from reports of patients, not as painful as most caustic agents. And the cicatrization of the tissues appears to be satisfactory, but in many cases, I am convinced, that the enormous destruction of tissue was not necessary and the question of criminality comes to mind. Whether or not these things should be permitted in a state having medical practice regulations comes up for serious consideration. For myself, I feel it is a blight on our civilization. If, however, this agent be used under proper regulations, it is evidently capable of doing great good, and I believe the percentage of permanent recoveries should be as great as by any other method.

CLINICAL REPORT.

A REPORT OF TWO CASES OF RETROPHARYNGEAL ABSCESS, THREE CASES OF PYELITIS AND ONE OF HYDRO- CEPHALUS—WITH RECOVERY—IN INFANTS.

By W. L. JOHNSON, M. D., St. Louis.

Baby B., aged six months, breast fed, was taken ill with mild fever and catarrhal symptoms on February 28, 1904. These symptoms grew worse in spite of steaming under a tent, ipecac and unusually vigorous treatment and excellent care. The throat was not easily seen on account of the infant's "hard mouth" and an accumulation of mucus which invariably welled up when the effort was made. On March 2d the retracted head, inspiratory dyspnea and increasing severity of the symptoms made me feel certain of a retropharyngeal abscess, which was recognized, only by palpation, running down the left posterior wall of the pharynx.

Dr. Chapman was asked to see the child and assist me.

As he thought it might be only a peritonsillar abscess, I punctured the tissue surrounding the tonsil, but got only blood. I then cut lower, under great difficulties, and a tablespoonful of pus escaped. The infant was apparently relieved, but not as much as I thought it should be. The following morning the symptoms were as before, so that with my finger I tore the sac on the left posterior wall of the pharynx and a considerable quantity of pus escaped, followed by marked relief. This abscess extended further down than my finger could reach, but emptied itself, and the baby made a good recovery.

Baby H., aged fourteen months, was seen February 25, 1904, for similar symptoms and not again seen until March 1. On this date there was no evidence that I could obtain of an abscess, but the same difficulty was experienced in seeing the throat as in Case I. March 3d I was called again. The mother reported the baby as having had a distressing night, clinging to her in her attempt to get air. Palpation revealed a large abscess, also on the left side. Remembering my experience of the day before, I ruptured the abscess, then and there, with the finger, and a large amount of pus was evacuated. The child went to sleep and slept from 10 A. M. to 4 P. M. The next day I assisted the expulsion of more pus, and could get the index finger of my left hand into a pocket which evidently ran down behind the larynx. The symptoms abated for a time, but returned on March 23d—especially inspiratory dyspnea, fever and septic symptoms. The baby showed a slight swelling just in front of the trachea, half an inch below the cricoid. Several physicians saw

the case, but there was no agreement as to whether there was fluctuation or not. The baby was taken to the Bethesda Hospital, where Dr. Saunders advised operation. Dr. A. Levy operated. The superficial layer of the deep fascia was reached and incised; pus came out, and Dr. Levy took care of the baby until recovery.

Here then was a retropharyngeal abscess followed by a deep cervical one, operated on promptly with complete recovery.

June 11, 1902, Dr. Saunders had me see baby B., aged six months.

She was a poorly nourished, bottle-fed infant, having temperature, repeated vomiting and losing weight fast. On palpating the abdomen I found a tumor and pain over it on the left side. At that time I had little or no definite idea of pyelitis, but felt that the left kidney was infected. Upon my report I was instructed to obtain the urine, which I did by catheterization. It was albuminous, contained pus cells and blood cells.

The diagnosis was then clearly pyelitis, and accorded with the provisional one made by the doctor on June 12th when he saw the case with me.

There was in this case and the others great pain, requiring an anodyne, so that rest might be had. The treatment was alkalies and a formaldehyde combination. July 5th all trace of pain, tumor and pus had disappeared. It was more than a year, however, before the baby was in anything like a fair condition.

The next case was Baby J., aged ten months, who had been treated for "stomach trouble," but was found to have fever, vomiting and a tumor, with tenderness on the left side. The urine was examined and found to contain pus, blood, etc. The baby improved rapidly on treatment directed toward the cause and recovered in four weeks of the infection, but remained ill-nourished for some months.

The third case was one in another female, Baby F., aged nine months, where I had diagnosed grippe, but the diagnosis didn't hold with myself, so that I made a complete physical examination, finding again on the left side an index to the situation. This baby was catheterized frequently and the urine watched closely from February 26, 1904, to March 15, 1904, when all trace of pus had disappeared.

The formaldehyde salt was given, however, without my knowledge, until a week ago, without any apparent damage.

The diagnosis was made on the location of tumor, presence of pain, absence of pain over site of the bladder and urinary findings.

In all cases of irregular fever let us take Dr. Holt's advice and examine the urine. The results of treatment are manifest in a very short time and the new formaldehyde salts are remarkably efficient. The case of hydrocephalus is an exceptional one in its outcome.

Mrs. C. was confined February 2, 1904. A diagnosis of twins having been made and labor progressing unsatisfactorily, I asked Dr. Chapman to come to my assistance. I delivered the first baby with instru-

ments in a short time and without incident or injury. The second Dr. Chapman delivered "footling." On the third day one of the babies began to be jaundiced, and in a day or two more its head was noticed to be enlarged, sutures separating, fontanelles tense, and in ten days the picture of hydrocephalus was complete. The baby was the "forceps" baby. The icterus was the most intense I had ever seen, and there was marked difference in the pupils, the right being more than twice as large as the left, the sagittal suture was an inch wide, the head globular, the eyes characteristic. Unfortunately no measurements were taken. It was not thought necessary on account of the clear picture and the grave prognosis and imminent danger, for the baby was hardly alive on the eleventh day. I watched the infant until the 26th of February, the twenty-fourth day of life, when the icterus was slightly better and the general aspect better; that is, the baby showed better physical condition. March 23d I saw it again, and the icterus was considerably better, but not gone, the head was assuming better proportions, the sutures hardly at all separated. On June 21st, the last time I saw the baby, it was apparently a normal child.

The only treatment was fractional doses of calomel (1-40 gr.) intermittently for a couple of weeks. Dr. Saunders saw the case with me and made, as I had, a diagnosis of hydrocephalus and a positively hopeless prognosis.

The occurrence of the marked icterus—the urine and even the sweat containing large quantities—is an association not to be overlooked in this singular case. Did the biliary saturation have any therapeutic effect?

The temperature was sometimes slightly elevated, frequently subnormal. There was no external injury, no infection of the navel, no milk infection.

TWO CASES OF OBESITY TREATED BY MEANS OF THYROID EXTRACT.*

BY ALBERT E. TAUSSIG, M. D.

The drug treatment of obesity is falling into a neglect that, on the whole, is deserved. By means of a careful regulation of the diet and of exercise, combined with proper hydro-therapeutic procedures, we can in the majority of cases treat obesity successfully and with perfect safety to the patient. Of all the multitude of drugs that have been recommended for the treatment of obesity, the only one that is at all effective is some preparation of the thyroid gland. But in spite of its unquestioned efficiency thyroid extract has certain drawbacks that forbid its routine use. In many cases, as soon as an effective dose is reached, toxic symptoms present themselves: headache, circulatory and nervous

* From the medical clinic of Washington University, service of Prof. W. E. Fischel.

disturbances. Where these do not promptly demand the withdrawal of the drug, the proteid constituents of the body waste away with the fat, so that the rosy, full-blooded, obese patient is converted into an anemic, much weakened, loose-skinned semi-invalid. Finally, even in most of those cases in which the thyroid gland acts well, a cessation of the treatment is followed by a prompt return to the previous condition of obesity. All of the ill-effects of thyroid extract in the treatment of obesity are most pronounced in children, and here it should never be given unless we have reason to assume thyroid insufficiency.

There are, however, certain exceptional cases that seem to thrive on thyroid extract. They lose in weight promptly and steadily—feel, one may almost say, the years fall from their shoulders as the treatment progresses; and, strangest of all, when their normal weight has been reached, seem able to maintain it after the entire or nearly entire withdrawal of the drug. The two cases of this kind that I am able to report both came of families in which obesity was hereditary. It may be that this condition had some connection with a hereditarily insufficient thyroid gland, and that therefore the administration of thyroid extract merely supplied the body with an element necessary to its normal function.

Case 1.—Mrs. G., housewife, aged forty-four. The patient comes of a very obese family. Her mother, who is a short woman, weighs 183 pounds. Her maternal grandmother, also rather a short woman, weighed 300 pounds when she died at the age of 79. At her funeral the pall-bearers were four grandsons, each weighing over 200 pounds, and there were present in addition a daughter, weighing 247 pounds, and three granddaughters, each weighing over 200 pounds. The patient has always been very stout, but during the past few years has been gaining in weight rapidly, and has been suffering from occasional vertigo and from very severe attacks of cardiac palpitation. These come on without warning and at any time, whether day or night. Her heart seems to give a violent bound and then to stop. Immediately after it begins to beat violently the patient feels as if she could not breathe, sharp pains shoot upward into the left shoulder and the neck (not into the left arm), and she feels as if about to die. A few minutes later, however, all discomfort has ceased and she can resume her previous occupation.

In addition to these paroxysms, her mere bulk interferes with her work; she is short-winded and tires easily. Occasionally she has attacks of polyuria, in which she passes from three to eight quarts of urine in twenty-four hours, is very thirsty and drinks corresponding amounts of water. It may be stated here that her urine was examined at frequent intervals during the course of the treatment, and was always found normal, except that during her attacks of polyuria the specific gravity was very low. For five years the patient had occasionally suf-

fered from sciatica, during one of which attacks she came to the clinic. There was no history of syphilis. On examination the patient was found to be a stout, full-blooded woman, not making the impression of one in ill-health. Temperature, 98.9; pulse 108, soft and regular; hemoglobin, 70 per cent. A physical examination was rendered very unsatisfactory by the thick layer of fat everywhere; nothing abnormal was found, however, except considerable tenderness along the course of the left sciatic nerve.

At first the treatment was directed only towards the relief of the sciatica, and with only moderate success. In June, 1901, however, believing that all of the patient's symptoms were due to her obesity, a reduction cure was begun at the suggestion and under the supervision of Dr. C. A. W. Zimmermann, the clinician in immediate charge of the case. At this time she weighed 263 pounds. She was put on a rather strict Ebstein diet, told to take the usual Winternitz baths, and was given very small doses of thyroid extract (gr. ss, three times daily). At first she did very well under this treatment, losing five pounds in ten days, but she soon found it impossible to adhere to the diet. She was therefore put on only a moderately restricted dietary, but was given larger doses of thyroid extract. During the latter half of June she received two grains three times daily, and lost ten pounds in weight. During July and the first four weeks of August she took three grains three times daily, and lost a further twenty pounds, making her weight on August 27th, 230½ pounds. During this progressive loss in weight all of her distressing symptoms disappeared—her sciatica ceased, her vertigo and polyuria disappeared, and the dyspnea and palpitation did the same. She felt able to do unlimited housework, and was able to walk miles without discomfort. During the last months in particular she had failed to pay any attention to her diet, so that the loss in weight and the general improvement must be ascribed solely to the thyroid extract. As she desired, for cosmetic reasons, to lose still more fat, the dose was increased during September to four, five, and even six grains three times daily. Oddly enough, these large doses had no effect upon her weight, either because she had become habituated to the drug, or perhaps because we had to deal with an inert preparation. On discontinuing all treatment, however, her weight took another drop, so that on December 1st it had fallen to 220 pounds. At this time she felt absolutely well in every respect, and soon after ceased coming to the clinic. She had lost forty-three pounds in six months, wore a No. 16 collar instead of No. 17½, while her waist measure had shrunk from 42 to 34½ inches.

For one year she remained perfectly well and free from all disturbance, taking no medicine and in nowise restraining a very hearty appetite. During this period her weight remained nearly constant. Towards the end of 1902, however, she noticed that her clothes were again becom-

ing tight. In the winter of 1903 the dyspnea, palpitation and polyuria returned, and on March 13, 1903, she returned for treatment. She weighed 244 pounds and had a very large heart. Under varying doses of thyroid extract, but without any dietary or other restrictions, her weight fell to 230 pounds, with complete disappearance of all symptoms. Since that time she has remained perfectly well, requiring no further treatment and never weighing over 242 pounds.

Case 2.—Mrs. Y., housewife, aged thirty-seven. Her mother and one brother are very stout; otherwise her family history is negative. She has been married eighteen years, has had eight children, and has had no serious illness except as follows: at the birth of her last child, seven years ago, she became septic and acquired a parametritis which, four years later, necessitated a complete hysterectomy and ovariectomy. Two years ago a pain in the region of the coccyx made its appearance, which, in spite of all treatment, including four operations (at one of which the coccyx was removed), has persisted to the present day. She was always rather stout, but since the removal of her uterus and ovaries her obesity has increased rapidly. The patient presented herself as a stout, plethoric woman, making somewhat the impression of a neurasthenic, and complaining of a constant dragging pain in the region of the coccyx. Her obesity annoyed her chiefly on account of her appearance; it seemed to occasion no circulatory disturbance. On physical examination no visceral lesion could be made out, and no objective explanation of her coccygeal pain was found. Her urine was normal, and remained so throughout the treatment. At her first visit to the clinic, on May 15, 1903, her weight was $270\frac{1}{2}$ pounds. She was put on an Ebstein fat diet and was given small doses of thyroid extract (gr. $\frac{3}{4}$ t. i. d.). Under this regimen her weight fell from $270\frac{1}{2}$ pounds to 260 pounds in three weeks. Then, however, the patient declared herself unwilling any longer to submit to the restricted diet and, for the sake of experiment, she was allowed to eat what she liked, and the thyroid extract slowly and cautiously increased. During June, she took gr. $1\frac{1}{2}$ and during July gr. 2 and later $2\frac{1}{2}$, three times daily, her weight falling during these two months from 260 pounds to $244\frac{3}{4}$ pounds. Her tolerance of the drug was so perfect and her pleasure in her decreasing girth so great, that a still greater increase in the dose of the drug was ventured. From August 7th to December 9th she took gr. 5 of thyroid extract three times daily except when some intercurrent ailment demanded a change of treatment. The drug was well tolerated and reduced her weight from $244\frac{3}{4}$ pounds to $213\frac{1}{2}$ pounds. From this time on, with one brief interval, she took gr. $7\frac{1}{2}$ three times daily, until on March 14th of this year her weight had fallen to 200 pounds. The patient felt light and active, and if it had not been for the coccygeal pain, which remained unaltered, would have considered herself perfectly well. Since March she has been getting only small doses of thyroid extract (gr. 1 to 2, t. i. d.), and her weight has varied from 190 pounds to 195 pounds. She is very desirous of a further reduction of twenty or thirty pounds, and, considering the absence of any signs of thyroidism during her previous "cure," it might be justifiable to subject her to another course of thyroid treatment.

EDITORIAL COMMENT.

THE ST. LOUIS SOCIETY FOR THE PREVENTION OF TUBERCULOSIS.

In keeping with the activity shown in this work in other large cities, the organization of the St. Louis Society is now complete. The plan of association has been to make each branch as representative as possible and yet, in a manner interdependent. The chairmen of the different committees, with the general officers, constitute the executive committee, with power to act, and in turn has been appointed the "Committee for the Prevention of Tuberculosis" for the Civic Improvement League. This gives the society the sanction of the league without limiting its sphere of action. The generous acceptance of the executive committee as their special committee by the general officers of the league is a valuable endorsement of the movement.

Included in the committee on publicity is the editor of each St. Louis daily paper and several editors of medical journals. The advisory committee consists of the president or manager of each of the large St. Louis charities. The legal committee has for its members some of the best known attorneys of the city. The committee on inspection and the medical committee consist of representatives from all of the medical schools and universities with the health commissioner and members of the board of health, while the ways and means committee is composed of a number of well-known merchants and capitalists.

The outline of the plan of work is as follows:

1. A statement to the citizens that the death rate per thousand from tuberculosis in St. Louis is two and one-half times what it was fifty years ago—that at present rates one in seven now living in our city will die from tuberculosis—that education and sanitation through such efforts as we propose have reduced the death rate 40 per cent. in New York and Philadelphia which, if applied to St. Louis would mean the saving of 40,000 lives in the present generation, and an appeal for funds to carry on the work under the authority of the Civic League.

2. The distribution of a leaflet in several languages, through physicians, dispensaries and charity organizations describing the danger of communicating the disease, and the methods for its limitation, and request for the addresses of tubercular cases, especially among the poor.

3. Instruction of the inspectors of the charity organizations, who will be furnished with addresses of such cases in their district. They will be asked to explain the leaflet and if necessary will report to the committee on inspection.

4. The preparation of statistics as to places of greatest "house infection" and inquiry as to the cause.

5. Public lectures and instruction in schools with stereoptican demonstrations of the needs of the work.

6. The appointing of physicians in each district with the sanction of the board of health, who will agree to give an hour on certain days to poor patients who may come to them with a card from the inspectors.

7. The enforcement of the anti-spitting law—the investigation of unsanitary conditions in the tenement districts, and the effort to secure needed amendments to such laws as have to do with these conditions.

The question of a central dispensary and a city sanatorium cannot just now be discussed, but generous citizens have made offers of buildings and sites. This subject will probably be taken up in the autumn by which time it is hoped that the other work will be successfully instituted.

It must be distinctly understood that there is not the slightest intention of this association to intrude upon the relations of any physician to his patients, but that all physicians will be asked to aid the society by advice and effort. It is a work in which all should join, not only as a duty to others, but for self protection.

The following are the officers and committees so far as selected: Mr. F. E. Eaton, president; Mr. J. W. Lambert, treasurer; Mr. G. A. Blickhahn, secretary.

Executive Committee.—The chairmen of all regular committees.

Advisory Committee.—Representative officers of the large charity organizations.

Ways and Means Committee.—Mr. Jordan W. Lambert, chairman; Mr. Walter W. Birge, Mr. Arthur R. Deacon, Mr. Charles W. Nugent, Mr. George S. Strodman, Mr. George M. Wright.

Committee on Inspection and Conference.—Dr. J. R. Lemen, chairman; Dr. Henry J. Scherek, vice-chairman; Rev. Otto Baltzer, Dr. Walter Baumgarten, Dr. H. G. Nicks, Mr. Charles Meston.

Committee on Legislation.—Mr. Ashley Cabell, chairman; Mr. George R. Lockwood, Mr. Frank J. McMaster, Gen. George H. Shields, Judge Selden P. Spencer.

Publicity Committee.—Dr. Albert Merrell, chairman; Mr. August Bietz, Dr. H. N. Chapman, Mr. Joseph A. Graham, Mr. George S. Johns, Mr. Henry S. King, Mr. John F. Wagner, Dr. Chas. A. Snodgrass.

Medical Committee.—Dr. William Porter, chairman; Drs. H. Wheeler Bond, W. J. Harris, George Homan, Charles H. Hughes, Harry W. Lyman, Wm. A. McCandless, W. G. Moore, Jesse S. Myer, E. W. Saunders, John H. Simon, Jos. Spiegelhalter, Justin Steer, James H. Tanquary, George M. Tuttle, E. J. Goodwin.

PROPHYLAXIS OF PROSTATIC HYPERTROPHY.

The most commonly accepted theory of the etiology of prostatic hypertrophy—that it is of inflammatory origin, and that in fact, through constant changes, the product of inflammation, a condition is gradually produced which, in men about fifty years of age, is known as prostatism—naturally leads one to look to preventive measures to eradicate the tendency to hypertrophy in its incipency.

Working along these lines Le Fier (in *Le Progres Medical*, May 7, 1904) accepts this theory, and insists that these inflammations do produce the hypertrophy of the aged, whether the inflammation be infectious or not; that by definitely curing these perhaps slight but neglected inflammations, the lesions may be prevented from evolving into hypertrophy; and, even though the symptoms of prostatism have begun, properly conducted treatment can still cause the symptoms to disappear, if it does not effect a complete cure.

Le Fier has entered a field of much promise, and, with his reported cases to strengthen his position, will undoubtedly inspire interest. It is to be hoped that others will obtain the same gratifying results, and that these old, and often septic and uremic patients, will exist only in tradition. As our best methods of attacking the hypertrophy are now being resorted to earlier than formerly—that is before, if possible, the septic and uremic state is reached—we may perhaps find the true solution of this question by starting treatment still earlier, and eradicating the lesions before the hypertrophic stage is reached.

THE VISIT OF PROFESSOR HOFFA, OF BERLIN.

The members of the medical profession of St. Louis may feel just pride in the fact that a great surgeon, truly an illustrious man of science, from a foreign land visited us, gave a public lecture, and operated on a number of cases in our hospitals without being subjected to the unwelcome praise and unjust criticism of our yellow lay press. This is more impressive when we realize that Professor Hoffa is responsible for an operation for "congenital hip disease," as the newspapers called it during the visit of another notable man from Europe.

It is true, however, that the Berlin professor of orthopedic surgery, the man who has done more for this branch of surgery than any other in Europe today, gave a lecture on "Coxa Vara" in the German section of the Educational building at the World's Fair. The lecture was largely attended by members of the profession, and all who heard it were well repaid. During the following week Professor Hoffa saw most of the orthopedic cases under treatment in St. Louis, and his advice, freely given, was invaluable to the fortunate recipients thereof.

The significance of this visit, let us hope, is great. If it indicates that a great man may come here from a foreign country and go back with-

out taking with him an everlasting memory of interviews and interviewers, of misrepresentations, and of a people who believe the newspapers, we surely have just cause for congratulation.

TREATMENT OF SYPHILIS.

The Practitioner of July, this year, contains two excellent articles upon the treatment of syphilis at thermal springs, namely, Wiesbaden and Aix-la-Chapelle—the former by Dr. Touton and the latter by Dr. Anton Lieen. The trend of both these articles is practical, and places before the reader at once the advantages which are to be expected from treatment of this disease at resorts. In the first place, as they point out, the patient receives energetic treatment and is free to follow the directions given him; therefore the lesions more quickly disappear, and the patient soon regains his normal equilibrium. They prefer the inunction treatment, and therefore adopt it as their usual routine. The general idea and procedure is the same as that carried out at our own Hot Springs of Arkansas.

It must be borne in mind in the treatment of syphilis, especially in the graver types of the disease, that mercury is not alone a specific, and its action is comparatively useless unless combined with other measures, such as proper tonics, food, rest and climate, to combat disease. Upon this fact rests the rapid beneficial results produced at the various resorts, because at such places the patient is away from his business and social obligations, and the change of scene and air (which is always beneficial) comes to the aid of the local inunctions. Again, the patient attends such places for the purpose of getting well, and in most instances concentrates his energies and gives his whole time and attention to this object. These gentlemen do not claim any specific effect for their waters upon syphilitic diseases, and therefore their excellent dissertation is conservative, wise and highly practical.

THE INTEGRITY OF THE ABDOMINAL WALL AFTER OPERATIONS FOR APPENDICITIS.

The old operations undertaken for the relief of pathologic processes which necessitated incising the lower lateral abdominal segments, resulted in a surprisingly large number of postoperative herniæ, no matter whether these abdomens were sewn up or drained. Of course, this complication was not so frequent in the first as in the second class of cases. It was not until Professor Kocher called attention to the fact that injury to the nerves supplying the abdominal wall results in atrophy of the abdominal muscles that we saw fewer herniæ on account of the increased care in protecting these nerves. But the best results in clean cases were not obtained until we came to realize the full value of the

muscle and fascia splitting procedures, of which McBurney's has been that most frequently used.

But it seems to the writer that sufficient stress has not been laid upon the value of a similar reasoning in cases where drainage will probably be necessary. Many excellent surgeons, long since accustomed to splitting operations in clean cases, simply make a through and through incision and allow the wound to spread where drainage is to be used, and hernia results, according to von Mikulicz, in about two-thirds of the cases.

With this point in view the writer has been accustomed in recent cases to use the McBurney gridiron incision in all appendicitis cases, whether suppurative or not, and is more than delighted with the result obtained. Ample drainage can be secured, and if drains be not left in place too long, the various structures comprising the abdominal wall approximate one another and close the opening almost as perfectly as this is seen to occur automatically upon the operating table during the process of sewing up a clean case. Convalescence is thus shortened greatly, and when the patient first arises from bed the scar is seen to be much firmer than where a simple through and through incision is used.

As to the amount of room gained by such an incision we have only to state that it was recently amply sufficient in a child of ten years for the introduction of a moderate sized hand into the abdominal cavity, consequently there should usually be no difficulty upon that score. There may be certain reasons why such an incision must now and then be enlarged in this or that direction but the idea is usually worthy of serious consideration.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Differential Diagnosis Between Motor Insufficiency and Hypersecretion of the Stomach—(*Berliner Klinische Wochenschrift*, No. 27, 1904)—In an article bearing the above title, Strauss endeavors to show the advantages of his "layer ratio" method, described in 1896, over the recent method presented by Elsner. The latter attempts to draw definite conclusions from the relation between the solid constituents of the stomach contents and the entire quantity removed. He permits the contents to stand for twenty-four hours, after which time he determines in cubic centimeters the amount of solids as compared with the fluids.

Strauss permits the contents of the "empty stomach" to stand for two hours, after which he notes in percentage the relation between the solids and fluids. Observation shows that in normal cases solids constitute 5 per cent. of the entire amount, while in the cases with motor disturbances 20 to 50 per cent. is made up of solids. This method is applicable only in those cases in which free hydrochloric acid is present. Strauss does not consider this method sufficiently reliable to justify utter disregard of the microscopic findings, but insists that account should be taken of this too. He claims for his method several advantages over Elsner's method, chief among which is the amount of time required for this examination and its exactness.

Pepsin in Various Diseases of the Stomach—ROBIN (*Archiv fuer Verdauungskrankheiten*, Vol. x, Pt. iii) considers Hammerschlag's method of determining the amount of pepsin present in the stomach contents as the only one adapted to clinical purposes, being comparatively exact and easily executed. The normal amount of pepsin may be taken as 50 to 70 per cent. There seems to be no definite relationship existing between the secretion of HCl and pepsin. In the presence of the normal amount of HCl we usually meet with the normal amount of pepsin, but sometimes with an excessive amount and occasionally with diminished pepsin.

In superacidity we find in some cases a normal amount of pepsin, in some an increased and in others a decreased amount. In ulcer of the stomach the amount of pepsin is similar to that in cases of superacidity.

In mucous gastritis we almost invariably find a normal quantity of pepsin.

In the transition from ulcer of the stomach to carcinoma the amount of HCl is first diminished and in the course of time the pepsin is diminished.

Diseases of the central nervous system often exert an influence over the secretion of pepsin.

In carcinoma of the stomach the pepsin is most often diminished and varies between 0 and 36 per cent. However the amount may be normal in this condition.

The existence of a normal or increased amount of pepsin in cases in which there is a decrease of HCl does not justify one in excluding the possibility of carcinoma. In "achylia gastrica simplex" we meet with a total absence of pepsin as well as marked diminution.

On the basis of the pepsin alone, one can not differentiate between carcinoma of the stomach and "achylia simplex."

A complete cessation of the gastric secretions (achylia gastrica completa), independent of carcinoma, is met with in individuals from thirty-two to fifty-six years of age.

In concluding, the author shows the importance of distinguishing carefully between anachlorhydria, anaciditas, aepsinia and achylia.

Has Influenza Been a Causative Factor in the Increase of Appendicitis.—(*Journal of the American Medical Association*, July 30, 1904).—Marvel, after a brief review of the history of influenza and appendicitis, discusses at some length the relationship between the two. He recites a number of letters from authorities on the subject who favor his views. He concludes that the last five years show a marked increase over the previous five years. He believes that the accessory cavities are more frequently attacked, and when diseased are more likely to be aggravated in influenza than in other affections. Since the existence of chronic intestinal influenza is more than a probability, it is quite possible that influenza is often the cause of appendicitis.

The Influenza Bacillus as an Etiological Factor in Cholecystitis.—HAYROVSKY (*Wiener Klinische Wochenschrift*, No. 23, 1904) reviews briefly the literature on the influenza bacillus from the standpoint of its etiology in the production of both local and general infections. Cases are cited in which careful examinations have revealed the presence of this bacillus in endocarditis, enteritis, appendicitis, etc. The case reported by the author presented a typical history of gall stones. The operation showed the presence of stones and a sanguino-purulent fluid in the gall bladder. The course of the case was interesting in that the patient developed pneumonia on the third day. The bacteriological examination of the mucous removed from the gall bladder revealed the presence of the influenza bacillus and animal experimentation confirmed the findings.

The previous history was that of pneumonia about eight years ago. At the time of the operation there existed a slight bronchitis, which the author considered the initial infection. The infection of the gall bladder occurred through the swallowing of influenza bacilli.

Following the operation the fistula persisted, which, according to the author, is to be expected in infections due to the influenza bacillus. They interfere with tissue regeneration.

Herpes Zoster in Croupous Pneumonia.—(*Muenchener Medicinische Wochenschrift*, No. 25, 1904).—This report of Ruhl is based upon 481 cases of croupous pneumonia observed in the clinic of Prof. Bauer. He found

herpes present in 30 to 40 per cent. of the cases, being far more frequent in males than females. They appear usually on the third or fourth day and appear but once in the same patient. The region most often affected is that supplied by the second and third branches of the trigeminal nerve and especially along the infraorbital. It has been observed, however, in other regions, as the neck and extremities. In the very young and very old persons the eruption is rarely if ever present.

Herpes has been observed chiefly in the mild attacks of pneumonia, 90 per cent. of the severe cases remaining free from it. The author considers the eruption, therefore, of great prognostic significance.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Longitudinal Wound of the Carotid with Primary Suture and Healing.—LAUNAY (*Bulletin Societe de Chirur. de Paris*, Tome 30, No. 23).—The patient was operated upon for a large tumor on the left side of the neck, this same having originated in the lobe of the thyroid gland. During the separation of firm adhesions in the depths of the wound there was a sudden deluge of blood, and when the clamps had been applied and the field sufficiently cleansed to permit of observation, it was seen there was a longitudinal wound in the anterior aspect of the internal carotid just at the point of bifurcation. The extremities of the vessels were gently compressed with forceps while a fine suture was applied with a Milner's needle. But a single row was used and these not allowed to perforate all the coats. In less than two weeks the patient was up and around, and the pulsation could be plainly felt in the distal portion of the vessel.

Extensive Subcutaneous Laceration of the Abdominal Muscles.—EISENDRATH (*Annals of Surgery*, June, 1904).—The patient in question had been caught between the sides of two street cars which were passing in opposite directions upon tracks very close together. When seen a few hours after the injury there was a swelling about the size of an orange just above the crest of the ilium, and in consequence of this the diagnosis of a hernia through Petit's triangle was made. The skin was considerably bruised, but otherwise intact. The patient was not operated upon until sixteen hours after the injury, in deference to his own wishes, and after the skin was incised it was seen that all the muscular structures had been torn completely loose from the ilium, the skin being, in fact, the only structure which had prevented the escape of the viscera. There were contusions of some of the abdominal viscera, but no rupture. By way of repair the abdominal muscles were sutured to the gluteal fascia with kangaroo tendon, and the surgeon was gratified by the recovery of his patient and union par primum. Nine

months after the injury the patient was examined, but no symptoms found which could show that the result had not been perfect.

The First Dressing on the Battlefield.—STOCKUM (*Zentr. fuer Chirurgie*, No. 26, 1904).—The author proposes to treat all fresh injuries incurred in battle by simply pouring balsam of Peru into the wound. He does not advise any antiseptic or other form of wound washing, and, after he has poured in the chemical above mentioned, applies a simple absorbing and retaining dressing, which is to remain in place about three weeks. Compound bone injuries are to receive a splint in addition, and where the external wound is very small the balsam of Peru is to be injected into the compound fracture with the syringe. He goes extensively into statistics to show that this method has been attended with better results than any other form of first aid to the wounded, and this is especially interesting in view of the fact that the various methods are credited to various authors. The advantages of the method can be summed up as follows: 1. The wound does not have to be cleansed nor disinfected. 2. The person who applies the first dressing does not have to cleanse or disinfect his hands. 3. A sterile bandage is not necessary; any sort of cloth at hand will do the work. 4. The fact that the dressing can remain in place for three weeks greatly simplifies the matter of transport. 5. The person who applies the dressing does not have to be a surgeon.

Retrothyroid Pharyngectomy.—QUENU and SEBILEAU (*Revue de Chirurgie*, No. 6, 1904).—The authors have had two of these cases, and the operation has seemed to them so simple, as well as being possessed of so many points of advantage, that they feel it their duty to give the public the benefit of the procedure. The incision is to be made on the anterior border of the sterno-mastoid. After ligation of the superior thyroid artery, the inferior constrictor of the pharynx is easily exposed by blunt dissection by passing behind the lobe of the thyroid gland. By drawing forward the thyroid cartilage the wall of the pharynx is then easily put on the stretch, and can be opened with a stroke of the knife or scissors without difficulty. The authors lay especial stress upon the facility with which these various steps can be carried out, and, indeed, it would seem that the method must be a comparatively easy and bloodless one.

Recurrence of Malignant Tumors as the Result of Implantation.—WILMANNS (*Beitraege zur Klinische Chirurgie*, Band 42, Heft 2).—The author cites numerous publications in which the separate authors have seen evidences of the well known fact that recurrence does take place as the result of knife or needle puncture when these instruments have been used in an operation upon malignant growth. To this history he is able to add a new case from the clinic of Prof. Kraske. The first operation was done for a carcinoma of the tonsil. In order to get at the growth from the outside it was necessary to saw the lower jaw in two and wire it again. The patient made an uninterrupted recovery from the first operation, and about four years later presented herself again for a second operation, this time the involvement being at the angle of the jaw, where a tumor the size of a goose egg marked the point of previous sec-

tion of that bone. At the second operation a liberal resection of the jaw bone was made, and the microscopical examination revealed that the second tumor was of exactly similar structure to the first, which had been removed four years previously. It is certainly of interest to note this latest addition to the literature of the subject, especially since a tumor originating in the soft parts made its secondary appearance in a bone which had been sawn in two and reunited at the first operation.

Sarcoma of the Alimentary Canal, with Report of a Case.—EDRED M. M. CORNER and H. A. T. FAIRBANK (*The Practitioner*, No. 6, 1904).—This extensive historical and statistical article hardly admits of a review. The material which it contains can scarcely be condensed into a short article. However, it may be of value to mention some of the points of permanent interest. One hundred and seventy-five of these cases have been collected, these being all of them primary. Males were affected in a ratio of two to one compared with females. About seventy per cent. of the cases occurred in the stomach and small intestine. The lungs were very rarely affected in secondary metastases, the liver and kidneys being most often invaded thus. Five cases of primary sarcoma of the appendix were seen, and in almost all of these the diagnosis was mistaken for that of appendicitis. The article deals largely with the surgery of the subject, and in every way exhausts the matter at hand.

Experiments on Increasing the Resistance of the Peritoneum Against Infection at Stomach and Intestinal Operations.—VON MIKULICZ (*Archiv. fuer Klinische Chirurgie*, Band 73, Heft 2).—The attention of Prof. von Mikulicz was first attracted to the possibilities in this line by the fact that a large number of such patients who survive an operation suffer from a certain degree of peritonitis. Either the germs which escape from the viscera are too virulent for such a peritoneum to take care of with ease, or else the patient has not the strength left to accomplish so desirable a result without any peritonitis taking place. These two possibilities suggest to the surgeon the further possibilities of combatting the affection, but since the intestinal contents cannot be rendered aseptic our only remaining possibility lies in increasing the native resistance of the patient, and this he purposes to do through an artificial hyperleucocytosis. A large number of experiments were performed upon guinea pigs with most striking results. As the result of the intra-peritoneal injection of saline solution, and by hypodermic injection of nucleines, it was possible to greatly increase the number of leucocytes found in the peritoneal fluid, and in consequence of this it was easily proven that the animals so treated withstood doses of infective material which proved fatal to the control animals. After these experiments had been done, von Mikulicz followed up the line of reasoning in abdominal operations upon thirty-one cases, and, though his results were highly gratifying, still he cannot definitely say that the specific treatment indulged in had had a definite bearing upon these results, since we know a narcosis alone may produce a pronounced hyperleucocytosis. Von Mikulicz, however, feels himself justified in expecting something, at least, from the hypodermic use of nucleines and from the treatment of the peritoneum with saline solution.

Hematoma of the Mesentery with Partial Torsion of the Same Intestinal Occlusion.—SENCERT (*Archives Provinciales de Chirurgie*, No. 6, 1904).—A child twelve years old suffered from what was diagnosed as chronic intestinal obstruction. In one more than usually severe attack he was sent into the hospital, but on account of temporary improvement in his condition he was not operated upon until it was too late to attempt any such procedure, and the autopsy revealed a most interesting condition. The high coils of small intestine were almost fixed in position on account of a surprising shortness of the mesentery, and proceeding downward the lower portion of the ileum was found to be firmly fixed to the vertebral column. The parietal insertion of the mesentery had been changed from a straight line to an S-shaped curve, and between the layers of this membrane there was a hematoma as large as a good-sized kidney, which had resulted in so much pressure upon the mesenteric vessels that they had been obliterated and all nourishment cut off from the segment of small intestine involved. This latter circumstance must in part be accredited also to the influence of torsion of the mesentery upon itself.

An Experimental Contribution to the Subject of Decapsulation of the Kidney.—EHRDT (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Band 13, Heft 2).—This article proves experimentally that the theoretical deductions upon which Edebohls based his work are far from correct. Edebohls claimed that he did good by establishing a rich, new blood supply for the cortex of the kidney. The author says that nothing of the kind occurs, because in six cats he stripped off the capsule of the kidney and in all six saw a new formation of connective tissue around the organ, which same strongly resembled a newly regenerated capsule. Now, if no formation of new vessels took place around perfectly healthy kidneys in animals in good condition, how is such a thing to be expected in animals whose vitality is already lowered as much as is seen in chronic nephritis, which has been treated with Edebohls' procedure?

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

Diet in Nephritis.—H. KOSTER (*Nord. Med. Ark.*, Abt. II., H. 4, 1903; *Zentralbl. f. d. ges. Therapie*, June, 1904, p. 299).—The dietary treatment of nephritis, a disease for which little can be done by means of medicaments, has always excited the interest of physicians. There is even now much difference of opinion on this matter. The questions as to whether one should prefer a diet rich in proteids or poor, meat or no meat, red meat or white, are still open. In spite of the fact that many prominent clinicians have urged the employment of a mixed diet in nephritis, this view still meets with general opposition and the exclusive milk diet finds many advocates in all forms of the disease. The writer,

who had long had a general impression of the harmlessness of a mixed diet in nephritis, undertook an elaborate investigation of the subject. Only cases of chronic nephritis (over thirty in all) were studied, since there seemed no reason to question the value of a milk diet in acute nephritis. Four general dietaries were given. The first consisted of milk in sufficient amounts, with sage soup or oatmeal gruel; the second of milk, white of egg and starchy foods; the third milk, one egg, a moderate amount of white meat and starchy foods; the fourth of a general diet with meat both red and white. The patients were submitted to each of these dietaries in turn and their urine, as well as their general condition, closely watched.

In general, the following results were obtained:

1. In acute nephritis a rigid milk diet is indicated, and should be abandoned only after the cessation of all acute symptoms.

2. The same holds true for all acute exacerbations of chronic nephritis, as well as for impending uremia.

3. The treatment of chronic nephritis is best begun with a strict milk diet, or one confined to milk and vegetables. After the amount of albumen and sediment, which usually diminishes somewhat under this regimen, has been constant for some time, a mixed diet, including meats of all sorts, may be permitted.

4. This holds good for all forms of chronic nephritis, except amyloid kidney, in which greater caution is necessary.

5. Edema and ascites do not contraindicate a mixed diet if the patient desires it, but a certain amount of caution and closer observation of the patient and of his urine are necessary.

6. The same caution is important when there is marked hematuria.

7. It is a matter of entire indifference whether the nephritic patient be given white meat or dark.

8. It is often profitable to put a patient who is allowed a mixed diet, on a strict milk diet for a short time, as a distinct and permanent diminution in the amount of albumen excreted often ensues.

9. The amount of albumen in the urine is but slightly influenced by the amount of albumen in the food. The morning urine is usually poorest in albumen; that passed immediately after breakfast, the richest. There are, however, patients for whom this last rule does not hold good.

The Danger in the Use of Digitalis in Heart Disease.—JULES DANBY (*Bull. gen. de Therap.*, 15th December, 1903; *Therap. Monatsh.*, June, 1904, p. 315).—Even where it is clearly indicated, digitalis can prove a source of danger to the patient. Danby has seen two cases of sudden death in cardiac patients following the administration of digitalis, and calls attention to the danger to which individuals with atheromatous arteries are exposed as a result even of small doses of this drug. Both patients were about sixty years old and suffered from cardiac palpitation, edema of the lower limbs, small and irregular pulse, dyspnea, etc. Digitalis was prescribed in the following form:

R	Inf. fol. digitalis.....	1.2 ad 270.00
	Extr. opii.....	0.10
	Syrupi tolutani.....	30. 0

M. et S.—Take one tablespoonful every two hours.

As a result of this therapy, the symptoms enumerated above disappeared rapidly, so that the patients considered themselves cured. Both, however, died suddenly, while perfectly quiet, without having exposed themselves to any of the agencies that might be expected to bring on an apoplexy. One of them, indeed, was surprised by death while asleep at her husband's side. The explanation of this sudden death, says the writer, cannot be found in one of the usual causes of cerebral embolus or hemorrhage. We must fall back upon the increase in blood-pressure produced by the administration of digitalis. Danby expresses his surprise that hitherto, so far as he knows, no one has held the digitalis prescriptions responsible for such accidents. It is his belief that they are not at all rare. While it need not be admitted that death often overtakes cardiac patients suddenly, just when a condition of dilatation has been replaced by one of good compensation, this unquestionably may occur at times. The fact that Danby observed two cases within a short period of time speaks against an excessive variety of this accident. There is need of emphasizing the great caution that should be observed in prescribing digitalis for patients with advanced atheromatous degeneration of the arteries, with sclerosis of the cerebral vessels or in whom there is reason to assume the presence of an endocarditis verrucosa, either fresh or old.

The Inaccuracy of the Teaspoon.—MILLER (*N. Y. and Phil. Med. Journal*, March 19, 1904, p. 545; *Therap. rev.* May, 1904, p. 172).—Miller found that the same teaspoon, when filled to what they understand as a level teaspoon, was made by three different persons to hold 55, 65 and 85 grains, while the quantity understood by the level tablespoonful varied from 168 to 215 grains. Even when measured by the same person there was a difference of 10 to 20 per cent. When in addition to the haziness of the term, level teaspoon, we remember that the teaspoons ordinarily used vary quite 100 per cent. in their capacity, it is evident that they represent a very inaccurate way of measuring drugs.

Ill Effects of Mesotan.—LEO CARO (*Therapie der Gegenwart*, June, 1904, p. 287).—The writer reports four cases in which mesotan was used, not only without any good effect, but with the result of adding to the patients' original ailment a new and even more disagreeable source of discomfort.

Case 1.—Acute articular rheumatism affecting the right knee-joint. One teaspoonful of a mixture of equal parts of mesotan and olive oil was rubbed into the skin over the joint and an absorbent cotton dressing applied. The following night an excessive burning pain set in at the region so treated. The entire leg was covered with a scarlatina-like rash, which lasted six days and was followed by desquamation.

Case 2.—An elderly lady with lumbago. Mesotan was rubbed in and caused so severe a dermatitis that its use had to be abandoned.

Case 3.—A young man with a rheumatic affection of the right shoulder. After mesotan had been rubbed in twice a bullous dermatitis appeared, covering the chest and back.

Case 4.—An old man, with a chronic double omarthritis. Having read about mesotan he rubbed about half a drachm into the right shoul-

der, once daily for three days. This was followed by a severe dermatitis of an urticarial type.

On the basis of these four cases the writer demands the abandonment of so irritating a drug, and the substitution for it of internal medication.

It must be added, however, that the ill results obtained by the writer can by no means fairly be laid at the door of mesotan itself, but must be ascribed to the improper method employed. In the first place mesotan should never be used undiluted, as seems to have been done in the last three cases. It must always be diluted with at least equal parts of olive oil, oil of lavender, or, perhaps better still, with alcohol. In the second place, it is equally incorrect to rub it into the skin. It should be sparingly painted on—best with a camel's hair brush. Applied in this manner and in this dilution it is still very effective, and as reports from Prof. Leyden's clinic show (*Niedner, Munch. Med. Wochenschr.*, 1904, No. 15), produces a dermatitis only once in several hundred cases.

Scopolamin Hydrobromate in Internal Medicine.—K. LIEPELT (*Berliner Klin. Wochenschr.*, No. 15, 1904).—The writer has found scopolamin hydrobromate useful in the treatment of delirium tremens, in febrile delirium, as in typhoid fever or in pneumonia, and in severe motor irritability from other causes. Properly administered it is superior to either chloral hydrate or morphin and never causes unpleasant after-effects.

It should be given in a solution of 0.01 to 10 parts of water (*i. e.* 1:1000). The solution must be freshly prepared and perfectly clean and is given hypodermically. The injection is painless. The solution is given in doses of 0.4—0.8 gram, corresponding to 0.0004—0.0008 of the drug, which usually produce a prompt sedative effect, lasting from three to five hours. The drug was always well borne, even in the maximum dose of 0.001 gram.

The Nature and Treatment of the Painful Empty Stomach.—FRANZ EHRLICH (*Muenchener Med. Wochenschr.*, 1904, No. 20, p. 882).—In all of the text-books the epigastric pain that comes on whenever the stomach is empty is considered as characteristic of a nervous gastric affection. The writer reports eight extremely interesting cases that prove that while the "painful empty stomach" may, perhaps, sometimes indicate a gastric neurosis, this is by no means always the case. They show clearly that this symptom may point to a gastric ulcer.

The first four cases suffered subjectively only from severe epigastric pain, that disappeared on taking food. They came for treatment on account of sudden, severe gastric hemorrhage. The usual treatment for gastric ulcer resulted in complete recovery. The other four cases had no gastric hemorrhage, but were almost certainly cases of ulcer on account of typical points of tenderness in the epigastrium, and to the left of the eleventh dorsal vertebra. One of these underwent a Leube cure with complete recovery.

The histories (for which the reader must be referred to the original article) indicate very clearly that in every case in which there is pain when the stomach is empty, relieved by taking food, the possibility of gastric ulcer must be kept in mind. Where a course of treatment

directed towards a correction of the neurasthenia is without avail, an ulcus cure should be tried.

A Case of Medullary Leucemia Successfully Treated by Means of X-Rays.—AHRENS (*Muench. Med. Wochenschr.*, 1904, No. 24, p. 1054).—Since Senn published the first cure of a case of leucemia by means of the x-rays, a number of similar results have been reported by American clinicians. Ahrens adds a suggestive case to the rapidly growing list. The patient, a man twenty-seven years old, apparently in perfect health, caught a severe cold during the military maneuvers, being forced to lie prone on the wet grass after a long, heating run in a drenching rain. Rigors, fever, dyspnea, pain in the right arm ensued. He grew gradually weaker, pain along the sternum and the long bones developed, and a rapidly growing abdominal tumor made its appearance. When first seen, one and a half years after the exposure, an advanced medullary leucemia was found, with a huge splenic tumor. The blood contained as many white corpuscles as red. The patient was given oxygen and arsenic, and in addition was subjected to the x-rays. A hard tube with powerful rays was used; the spleen was exposed to the rays for five to ten minutes daily, and each of the long bones as well as the sternum one to two minutes daily. The result was astounding. After the twenty-fifth sitting the spleen had shrunk to half its size; after the fortieth the blood had become normal, the relation of white to red corpuscles being 1:525; after the fiftieth the spleen was no longer palpable, the anemia had disappeared, and the patient might have been considered entirely cured.

This condition lasted somewhat over a month; then, however, the patient (who had returned to work) was again exposed to cold and wet after having been greatly overheated. When seen four days later he presented the typical picture of an acute leucemic relapse. The spleen had greatly enlarged, and while at this visit there was no marked leucocytosis, the number of leucocytes found five days later was twenty-two times as great as at the first visit. He was again exposed to the x-rays, but although the spleen was somewhat diminished in size thereby, the condition of the blood was not noticeably influenced. High fever set in, the patient became cyanotic, and died with the signs of chronic suffocation. At the autopsy, leucemic spleen, liver and bone-marrow were found. The spleen weighed six and one-half pounds.

It is to be regretted that in this case, as in the others that have been reported, no exact studies of the changes in the blood during the treatment were made. While the cure was not permanent, the results were so much better than have been obtained by other methods that they encourage a more general use of the x-rays in medullary leucemia.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

The Neutrophilous White Blood Corpuscles in Infectious Diseases.—JOSEPH ARNETH (Jena, Fischer, 1904, 200 pp.).—The revolutionizing (author!) discoveries which Arneth exposes in this book with an assertiveness and outspoken directness seldom found in medical literature, are made by the study of the morphologic condition of the neutrophilous cells in health and in infectious diseases. In this study only the size and the character of the nucleus are considered; practically the latter is all that is needed, and from its mononuclearity or polynuclearity all of these cells are divided into about five classes. The percentages of these classes in normal blood appear to be nearly constant, while in infectious diseases (with and without leucocytosis) they are considerably changed, a fact that is established in the given case by the study of one hundred cells and by the tabulation of the result in a blood picture. According to the prevalence of forms with undivided nucleus or of forms with divided nucleus (two to five pieces), the condition of the blood picture is called abnormal or normal. In this way Arneth has found in numerous tedious investigations that in the different forms of infection the blood picture shows characteristic changes in each of them, and that in all of them during convalescence there is a quicker or slower return to the normal percentages. In infections usually accompanied with leucocytosis, those cases without leucocytosis show the same changes in a more pronounced degree. It is very remarkable that in essentially benign infections, like measles and varicella, for instance, they are most pronounced, and take a long time for complete restitution.

This is the essence of the new method. Unfortunately we cannot follow the author into the detail of his teleologic ratiocination. The basis for it is, of course, the alleged important role that these leucocytes play as protective means for the infected organism. Aside from the fact that this question is by no means definitely answered (and here, for instance, the leucopenia of many infectious diseases remains, in spite of the author, an absolute contradiction), the main assertion remains to be confirmed, that the different nuclear arrangements in the neutrophils of the circulating blood are the expression of their functional activity. We do not know anything about it, and to consider the form most numerous in normal blood as the perfect representation of the mature leucocyte is simply an assumption. We do not know, furthermore, anything about the length of the period of existence of the single leucocyte, nor do we know whether the leucocytes in the circulating blood undergo any progressive or retrogressive changes whatsoever. The speculation of the author, therefore, on the infinite multitude of leucocytes destroyed, for instance during the course of a pneumonia, lacks the proof of an exact determination. We can just as well conclude that in pneumonia the so-called immature cells are the ones that assist the organism to combat the infection. Aside from the danger involved in any speculation on

physiologic problems, based on only morphologic factors, the determination of the latter in this case seems by no means unobjectionable. The differentiation of the cells was done from spread and dried specimens; on purpose, the more specific hematoxylin was neglected for the very indefinite nuclear stain of the triacid. Where nuclei are the main object, the most definite nuclear stain should be used. Neglected, too, was the fact that our spread and dried specimens show more or less in every constituent cell of the blood only an artefact. This does not only obtain for the red cells, but more so for the leucocytes, and it needs only to inspect a blood stain prepared after bichloride fixation or the well fixed section of a pneumonic lung, with its engorged vessels, to show that the dried specimen does not give a true impression of the morphologic condition of the cells and of their nucleus. It cannot be denied that Arneth's book contains points of value and worthy of consideration, but it will not remodel our knowledge of the changes of the corpuscular elements in disease, nor will it influence the investigation of immunity problems, as the author predicts.

About the Etiology of Malignant Tumors.—G. KELLING (*Munch. Medic. Woch.*, 1904, Number 24).—In a scientific journal the article of Kelling ought not to be mentioned, if it were not for the evidence it brings for the absolute helplessness with which we stand in view of the tumor problem. The honest declaration of the English cancer commission that in spite of the immeasurable amount of work done during the last few decades on this subject, our knowledge has not advanced a step, that we are in the dark, just as were the older writers, and that altogether new ways must be found to throw light into this darkness will certainly conform to the convictions of all unprejudiced thinkers. It is true that the splendid investigations of Wilms, Schlagenhauffer and Pick have, at least for a certain class of tumors, these, too, malignant ones, made very probable their congenital origin by the separation of cells from their physiologic connections during the fetal development. The question, why such cells are liable to form tumors, has also remained unanswered; the explanations advanced are purely hypothetical. The same obtains for Ribbert's views, who, in his "*Geschwulstlehre*," on this basis accounts for the origin of all tumors, benign and malignant. A perusal of this book plainly demonstrates to what degree pathologically and anatomically well established facts must be bent and changed in shape to fit the theory in all cases. The tumor question is as yet an absolutely unsolved enigma, as obscure and inaccessible to solution as hardly another problem of biologic character. The methods so far employed do not suffice; new methods must be discovered, or, like in other questions, a lucky chance must offer itself. There is only one thing that, in the discussion of tumors, never has been disputed, that is the origin of the tumor cells from the cells of the individual that has a tumor. It has been the endeavor of pathologic anatomy since the days of Virchow and Cohnheim to establish this connection. Any theory attempting to solve the origin of tumors must figure with this fact. It seems that even this fixed point is beginning to be subordinated to the etiology question in certain publications. But nowhere has this neglect shown itself more accentuated and sharp than in the paper of Kelling. Throwing aside the

total of the work done on malignant tumors, he conceives the idea that these tumors arise from fetal cells, transplanted into the tissues of another species. The young embryos of hens' eggs were triturated by him and injected into animals; in five out of seven cases he saw malignant tumors arise at the location where the injections were made; malignant adenomata, carcinomata, spindle cell sarcomata, etc. From the examination of tumors of animals he suggests that even the embryonal cells derived from avertebrates may give rise to the growth of tumors. Not satisfied with this result, he tries to bring by a bio-chemic method an additional proof. He injects triturated carcinoma tissue from a case of gastric carcinoma with ovarian metastases into rabbits, and obtains a serum that not only precipitates the carcinoma extracts, but also human blood serum and ovalbumin. The patient had been fed, together with other food, with raw eggs, and the fact that the rabbit serum precipitated an egg-white solution is evidence enough to the author that she carried in shape of carcinoma nodules a great amount of chicken meat in her body.

It would not be worth while to enter deeper into the reasoning of the author. That the paper was published in a high-standing journal explains itself by the fact that the latter, in a way, was compelled to give it space on account of the connection with the society before which it was read. Perhaps, too, this journal wanted to contribute to a stimulation of midsummerly lassitude of its readers. It is, however, altogether out of place to comment on this paper in a serious way and to urge careful controlling experimentation, as has been done by some of our prominent medical journals. Kelling's work may be read for the purpose of exhilaration only.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

The Results of Artificial Interruption of Pregnancy, with Special Consideration of the Fate of the Child.—CARL A. LOREY (*Arch fuer Gynaek*, Vol. LXXI).—In a monograph, dealing with the treatment of contracted pelvis, Kroenig stated that the induction of premature labor was unjustifiable on account of the high fetal mortality attending such a procedure. This claim of Kroenig has been widely quoted in obstetrical literature. It would seem that Lorey brings in his paper convincing proofs that Kroenig's views were erroneous. He deals with one hundred inductions of labor produced in eighty-two patients with contracted pelvis. Of the one hundred children seventy-four were born alive, fourteen of whom died within ten days. This certainly appears to be a high mortality. The writer shows, however, that these same eighty-two women had previously born two hundred and seven children, with a mortality in the first ten days of 78 per cent., as compared with 40 per cent. after premature induction of labor.

Lorey next considers the subsequent fate of the children. He ob-

tained reliable information concerning fifty-six of the sixty children; he calculates a mortality of 21.5 per cent. for the first year, as compared with an average mortality of 24 per cent. in the town of Halle. The writer found that the fetal positions at the time of delivery and the operations which were performed had practically no influence upon the mortality of the first year; that, however, the date at which labor was induced plays a very important part. The main influence is exercised by the feeding, the breast-fed children being decidedly in the advantage. The writer concludes that premature birth does not injure the child, and that Zweifel's statement, that of a hundred premature babies not one is alive at the end of the first year, is unwarranted.

For obvious reasons the results are different when pregnancy is interrupted on account of a maternal disease. In a group of cases of this kind only 15.8 per cent. of the children were found alive after the end of the first year.

The Weight of Newborn Children in Cases of Contracted Pelvis.—S. CHOLMOGOROFF (*Russky Wratsch*, No. 8, 1904, rev. *Muenchn. Med. Wochenschr.*, No. 25, 1904).—The writer investigated the interesting question whether there exists a relation between the size of the newborn and the size of the pelvis. For this purpose he examined one thousand patients with normal and one thousand with contracted pelvis, and determined in all of these cases the weight and length of the babies. He considered a pelvis to be contracted when the *conjugata externa* was found to be below 18 cm. or the *conjugata diagonalis* below 12 cm. The conclusions drawn from his observations are as follows: 1. The weight of children born by women with a contracted pelvis is smaller than that of women with a normal pelvis; 2. In cases of narrow pelvis the children are found to be shorter than normal; 3. The weight of children born by multiparæ with contracted pelvis, is larger than that of primiparæ with narrow pelvis; 4. In cases of narrow pelvis the proportion of male children is larger than under normal conditions.

Rupture of the Membranes Without Interruption of Pregnancy.—H. MEYER-RUEGG (*Zeitschr. fuer Geb. und Gyn.*, vol. 51).—French writers first called attention to the fact that even after rupture of the membranes and escape of the amniotic fluid pregnancy may continue. In other cases only the amnion breaks, while the chorion remains intact. The author reports a new case of this variety, the twelfth in literature. The child was born in the seventh month of pregnancy. It was malformed and crippled and died soon. There are thirteen cases recorded in literature in which the fetus was expelled fifty to one hundred and twenty days after the rupture of both membranes with escape of the amniotic fluid. The writer describes a new case of this kind. The only characteristic symptom of these cases is hydrorrhea. The escape of fluid may be continuous or in spurts, and as much as one liter may be discharged in twenty-four hours.

The Justification of Vaginal Panhysterectomy in Uterine Carcinoma.—F. SCHAUTA (*Monatsschr. fuer Geburtsh. und Gynaek.*, Bd. XIX., H. 4).—This is a most important contribution to the problem still under discussion,

whether the abdominal or vaginal way is preferable in the extirpation of the cancerous uterus. While of late the abdominal operations undoubtedly have gained in favor, some operators still adhere to the vaginal route. Strong support is furnished in this paper for the justification of this route. Two chief advantages are claimed for the abdominal operations, the possibility of removing diseased lymph glands, and of extirpating the parametria in a more thorough manner.

In the first section of the paper Schauta proves that even the abdominal methods do not permit of an extirpation of all infected glands, and therefore cannot be considered radical. The writer bases his proof partly upon the views and observations of numerous surgeons, as recorded in literature, and partly upon very painstaking investigations made by himself on sixty bodies, subjects of uterine cancer. Eleven hundred and eighty-two glands were divided up in serial sections, about one hundred and sixty thousand of the sections being stained and examined. It was found that only in a very small percentage of cases would it have been possible to remove all the diseased glands even by the most radical abdominal operations. Incidentally a claim of previous investigators was found to be well justified, namely: that large, hard, infiltrated glands are frequently not carcinomatous, while the very smallest glands may be infiltrated with the new growth. Another point of considerable interest and practical importance is the fact that carcinomatous glands secondary to uterine growths may long remain encapsulated, may lie latent for long periods, or *even undergo complete necrosis after removal of the primary growth*. (Confer Lomer: *Interstate Med. Journ.*, January, 1904, p. 42).

In the second portion of the paper Schauta deals with the claim that the abdominal methods offer considerable advantage in the extent to which parametric tissues can be removed. He repudiates this claim. In his opinion the vaginal panhysterectomy, with Schuehardt's para-vaginal incisions, permits the safe freeing of the ureters and the removal of the broad ligaments up to the periosteum of the pelvic bones. The great advantage of all the vaginal methods is, however, the undeniable fact that they are attended by a smaller immediate mortality than abdominal operations. The writer concludes that the vaginal is the route of choice in the removal of the cancerous uterus.

Recto-Vaginal Fistula Originating Sub-Coitu.—SHEFTEL (rev. *American Medicine*, July 2, 1904).—The possibility of serious injuries from the first sexual intercourse has been doubted by many authorities, in spite of reports to the contrary. The author reports an original case. The woman had a narrow vagina, and the first coitus resulted in a tear through the vagina below the hymen into the rectum. A recto-vaginal fistula was formed, and was closed by operation a year later.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Capillary Pulsation in Urticarial Wheals.—CARPENTER (*Brit. Jour. Chil. Dis.*, July, 1904), in commenting on the commonness of urticaria in childhood, calls attention to the fact that marked capillary pulsation in the wheals, with blanching and blushing, synchronous with the heart beats, may not infrequently be seen. The phenomenon may be found eventually where no aortic lesion exists. He reports a case of urticaria in a boy of two and one-half years, which lasted only one day, in which the pulsation in the wheals was very distinct.

Case of Perforated Gastric Ulcer in a Boy of Thirteen.—At a recent meeting of the Society for the Study of Diseases in Children, Cheyne reported this case (*Brit. Jour. Chil. Dis.*, July, 1904):

The patient had enjoyed good health until the onset of the illness, which was marked by severe abdominal pain about the umbilicus. He rapidly became worse, and after consultation, the same evening, it was decided to operate. The appendix was examined, found to be diseased, though not actively, and was removed. As the signs pointed to some rupture, the rest of the abdomen was explored, and over the front of the stomach some turbid fluid was found, and gas bubbled up. On further searching a small, round perforation was found on the anterior surface of the stomach about an inch from the cardiac end, from which gastric juice and gas were escaping. The ulcer was treated in the usual way, and the boy made an uninterrupted recovery.

The reporter referred to the rarity of this condition at this time of life, apart from tubercular ulceration.

Another point of interest was that, although a diseased appendix was found and removed, the presence of gas in the abdomen showed that there must be some other lesion. Unless this sign had been regarded as conclusive, the ulcer would have escaped detection, because its situation was remote, the intestines and stomach had been previously examined and very careful searching was required to find it.

In the ensuing discussion Parkinson referred to a case of his, where death, in a child of two years, was due to a perforating gastric ulcer, and where the postmortem failed to reveal any trace of tuberculosis in any part of the body.

Diphtheritic Paralysis Cured by the Use of Antitoxin.—COMBY (*Arch. de Med. des Enf.*, July, 1904), in discussing the question of the toxins of diphtheria, says that we cannot be sure how long they may remain active and virulent in the organism. The fact that in some cases diphtheritic paralysis comes on very early, in others very late, would indicate that the prolongation of action of the toxins differs very materially in different cases. He considers that it may easily be possible that the toxins may remain in the system for weeks, or even months. In this

way the very late paralyses can be explained. On this hypothesis the use of antitoxin in the treatment of diphtheritic paralyses appears to him to be thoroughly justified. He admits that some writers deny that antitoxin has any value in the treatment of diphtheritic paralyses, and quotes Sevestre, who, in his cyclopedic article in the *Traité des Maladies de l'Enf.*, takes strong ground against the treatment. Sevestre believes that antitoxin, by virtue of its action on the diphtheritic toxins, may prevent the development of a paralysis, but cannot affect the existing one. Comby insists that theoretic objections cannot avail against existing facts, and believes that the treatment should be more generally adopted. He calls attention to the fact that except for ephemeral rashes and fugitive joint pains no bad effects have ever been reported from the use of antitoxin, so that the harmlessness of the treatment is one justification for its use. He has collected six cases from the literature, one of them his own, of rapid cure of diphtheritic paralysis by the use of antitoxin.

He now reports four additional cases in detail, two of them very severe, in which the injection of antitoxin was followed by speedy recovery. All of these were cases of paralysis of the palate.

He believes that all cases of diphtheritic paralysis should receive injections of antitoxin, whether they have received antitoxin during the height of the disease or not, and he insists that theoretic objections ought not to weigh against empirically proven facts in this question.

The Accidents After Injection of Diphtheria Antitoxin—Their Harmlessness.—COLDEFY (*These de Paris, Arch. de Med. des Enf.*, July, 1904).—The accidents of serum injection could be carefully studied in this series of cases, eighty-one, because these children did not have diphtheria. The injections were made in children in the measles ward of the *Hôpital des Enfants-Malades*.

These "accidents" are of frequent occurrence, 15 to 20 per cent. of all cases injected. They are always mild and ephemeral. They consist of various skin eruptions, exacerbations of temperature, mild and fleeting albuminuria, muscular and articular pains, more rarely angina, with or without adenopathy, diarrhœa. Occasionally vulvitis, swelling of the eyelids, abscess, and temporary increase in choretic movements have been noted.

Several of these manifestations may be associated, but the resulting syndrome is never severe or of long duration.

The skin eruptions form the most frequent accident, constituting 70 per cent. of the total. They ordinarily occur some time within the fifteen days following the injection, and may be accompanied by rise in temperature. Most often these rashes are urticarial, though they may be polymorphous, or even distinctly purpuric. Scarlatiniform or measly rashes may give rise to errors in diagnosis. In tubercular patients severe and more lasting febrile reaction may follow the serum.

Severe albuminuria cannot be ascribed to the antitoxin. Indeed, given early enough, it prevents diphtheritic albuminuria. Antitoxin has no effect on pre-existing renal lesion.

The arthralgias, though painful, are wholly without gravity.

Abscess is rare, and is always due to faulty technique in injection.

Serious or fatal accidents have *never* been really *proved* to be actually due to the antitoxin.

The author concludes that antitoxin, the sovereign remedy in diphtheria, should be used *early in every case*. If the diagnosis is in doubt, the serum should be given without waiting for a bacteriological diagnosis. Prophylactic injections are earnestly advocated, especially in families, schools and hospitals, where there is reason to suspect contagion.

It is better to make a great many useless injections rather than to expose one patient to the dangers of delay.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

Irreducible Anterior Dislocations of the Hip, and Sub-Trochanteric Osteotomy.—GROSS, Nancy (*Revue d'Orthopédie*, May, 1904).—Anterior dislocations of the hip are rare in comparison with dislocations backward. The writer gives Hamilton's series, in which, out of 104 dislocations, only 13 were anterior; also the statistics of Cooper, Malgaigne, Weber, Billroth and Burns, in all 210 cases of luxation; of these only 49 were thyroid.

In speaking of the operative treatment of this condition the writer recites the cases in detail that he was able to discover in the literature, 11 cases in all, including one that he operated upon himself.

The operations done were arthrotomies, resections of the femoral head, and subtrochanteric osteotomy.

Arthrotomy has given very poor results: it is a very severe operation, and of the reported cases a greater number died than outlived it. The case reported that did withstand the operation had ankylosis, atrophy, lordosis and pain.

Resection of the femoral head has produced much better results, though the operation is quite a serious undertaking; the cases reported were all benefited.

The case reported by Gross is that of a man thirty-four years old, who had a dislocation forward of the right hip of ten months' standing. He decided to operate, choosing the resection of the head as the best proceeding. On cutting down on the head he found it so securely bound down that he closed up his operative wound, waited for it to heal, and then did an osteotomy just below the trochanter. The limb was brought down and union took place. The result of this operation was excellent, and the writer recommends it as the best on account of its simplicity and the lack of danger which accompanies it.

Some Clinical Notes on Tuberculous Arthritis in the Young.—ROBERT JONES, F. R. C. S., Liverpool (*Edinburgh Medical Journal*, 1904).—This paper was read by invitation before the Edinburgh Medico-Chirurgical

Society. Mr. Jones emphasizes the fact that the paper deals with tubercle in the young, and the treatment described is meant for the young, not for adult cases where the disease is much more malignant, and often requires more heroic methods.

He reviews the methods of Mr. Thomas, who was the pioneer of the mechanical and physiological rest idea, stating that during fifteen years of close association with and observation of Mr. Thomas' treatment he never saw him excise a joint, nor did the hundreds of cases which Mr. Thomas treated present as high a percentage of abscess formation as cases reported by other observers. Since the death of Mr. Thomas, fourteen years ago, Mr. Jones has followed his teaching, and now sees no need to modify essentially the doctrines he taught.

Methods of diagnosis are rehearsed, especially as applied to the hip, and the tables of Lovett and Kingsley are given. The splints designed by Mr. Thomas are fully described.

Abscess treatment should be expectant. Mr. Jones says that experience has taught him that it is better to leave the tuberculous abscess alone as long as possible, and when it is necessary to open an abscess it should be done with great caution against infection. Never should the Volkmann spoon or irrigator be used to break down the sac wall which provides so excellent a barrier against infection.

He recommends an operation for lessening or obliterating adduction with pelvic tilting. This operation consists of sawing across the femoral neck with a specially designed saw, and placing the limb in strong abduction until union has taken place.

A Review and Study of Some Recent Writings Upon Arthritis and Kindred Disorders.—F. J. POYNTON, M. D., F. R. C. P., London (*The Practitioner*, London, June, 1904).—Each year it is becoming more apparent that many different infections will produce a rheumatoid condition of the joints. Tubercle, syphilis, gonorrhea and similar infections will produce this result. So the blanks that did exist in the medical mind on these affections are being filled gradually by investigations. Such investigations the writer regards as very hopeful signs which will stimulate all the workers in this field.

Rheumatic Fever, Muscular Rheumatism, Rheumatoid Arthritis, Gout, Syphilitic Arthritis and Tubercular Arthritis are the headings of the sections included in this article. A review is given of the more recent writings on these subjects.

Perhaps the most interesting part of the article is that devoted to the question of the bacteriology of these conditions—the fact that a diplococcus has been found which, even in exceptional cases, would reproduce the disease in the rabbit is important.

Reference is made to the cases treated by Schmidt, who used a serum and noticed a definite improvement in six out of fifteen cases.

The nomenclature of rheumatism and the allied diseases is still in a state of confusion. This is evidently due to two difficulties—one dependent upon doubt as to whether these forms of arthritis are due to one or many causes; and the other a result of an old classification, which attempted to put in a special class those cases which showed changes in the bones and cartilages.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

The Relation of Epilepsy, Chorea and Other Motor Disturbances of the Nervous System to Eye Disease.—SACHS (*Medical News*—July 30, 1904).—Sachs thus considers his views on the matter. Summing up all that can possibly be said with due regard to the truth, it may be stated that the relationship between ocular affections and epilepsy, chorea and convulsive tic, may be a close one in the minds of some faddists, but it must remain a very remote one in the minds of those who have no especial ax to grind and no particular therapeutic territory to exploit.

Eye Strain and the Psychoses.—DANA (*The Medical News*, July 30, 1904).—There seems to be at stated intervals an acute epidemic of this fixed idea and it is well that at such times there are expressions of such logical and well trained neurologists to combat them as are contained in this number of the *Medical News*. There should always be in the rejoinders to the absurd claims of the oculists who persist in taking the position that there is a close connection between minute defects in accommodation and the most complicated nervous diseases, something of boredom and something of tolerant humor.

In this spirit the attitude of the so-called oculist-neurologist can best be met. These two articles both contain the necessary amount of ebury and the necessary amount of incontrovertable facts. Dana says that after sixteen years watching he has found hardly any cases in which eye strain is an important and direct factor in establishing even a minor psychoses. Perhaps after all the most real psychoses connected with eye strain is that shown by a group of enthusiastic oculists who have become possessed with the idea that eye strain forms the background of most pathological conditions. He does not think that our mental balance and nervous well-being are so entirely at the mercy of slight defects in an organ that has been perfected by milleniums of misuse and use.

Polyneuritis.—METTLER (*Illinois State Medical Journal*, August, 1904).—This paper is of interest because it brings out clearly some of the points in classification of the neuritides that will aid very much in understanding them. There has been a good deal of dogmatic description in regard to the classification and the differential diagnosis of this disease and it is well to know that the classic signs are not always necessary for the differentiation of this disease from other of the closely allied periphereal troubles. The question that always confronts the neurologist is whether in a given case the disease is strictly peripheral or if the spinal cord or in some cases the brain itself is not involved in the process which is so often of a toxic or chemical nature. The increasing numbers of observations bearing upon this point go to show that multiple neuritis is not so much a disease of itself as a mere local

expression of a much more extensive intoxication of the nervous system. The classification of Stintzing is adopted by the author; it is as follows: (1) Neuritis of an inflammatory origin, including the neuritides of leprosy, beri-beri and certain forms of unknown origin; (2) neuritis of degenerative origin. These are divided into those of toxic and those of infectious nature, those of constitutional and cachectic origin and those of systemic origin; (3) neuritis of both inflammatory and degenerative origin in which are to be included some cases of Landry's paralysis, post-diphtheritic paralysis and some primary forms of unknown origin.

The Use of Borax in the Treatment of Epilepsy.—HOPPE (*Berl. Klin. Woch.*, No. 27, 1904).—Hoppe calls attention to the use of this remedy in the treatment of certain cases of epilepsy. This drug was first suggested by Gowers. This can be used in the cases in which, for one reason or the other, the usual methods of treatment cannot be carried on. There are four classes of cases to which this applies: The epileptics whose excretory organs are not in a position to carry on their functions properly. The cases with circulatory systems not adequate to the daily activity imposed upon them. The cases in which, in addition to the epilepsy, there is, as a complication or as a cause, an organic cerebral disease. Then there is that class of epileptics in which there is an intolerance to the bromides. Twelve cases belonging to one or another of these classes were placed upon the borax treatment. The dose was one to three grams a day. In seven of these cases the result was altogether unsuccessful; in five of them the effect was good.

In conclusion, the author states that in borax there is not a specific antiepileptic effect to be expected. In those cases in which the epilepsy would be influenced by a condition of stomach symptoms, especially hyperacidity, the borax treatment may be of considerable service.

Disseminated Sclerosis.—TREDGOLD (*Review of Neurology and Psychiatry*, No. 7, 1904).—This is a careful study of the subject and an account of the results of the microscopic study of three cases. This paper is of great interest because the author arrives at results that are at variance with the results of former investigators, especially in reference to the part played by the axis cylinder and the myelin sheaths in the pathogenesis of this disease. A valuable feature of this paper is the clinical classification of the disease. This is as follows: (1) The classical type in which the predominant symptoms are tremor, nystagmus and alteration of speech; (2) the spastic paraplegic type, in which for a considerable period the clinical picture is indicative of a lateral sclerosis; (3) the combined lateral and posterior sclerosis type, in which spastic paraplegia is accompanied by sensory changes; (4) the transverse myelitis type; (5) the cerebellar type, characterized by the cerebellar gait and often accompanied by headache, giddiness, vomiting and symptoms suggestive of cerebellar tumor; (6) the hemiplegic type, in which apoplectic attacks occur followed by hemiplegia, with or without aphasia (usually the paralysis is of a transient nature); (7) the hysterical type, marked by transient paralysis following nervous shock or actual injury.

A *resume* of the pathogenesis of this disease, as derived from the microscopical study, is as follows: (1) The initial change is in the myelin substance; (2) the axis cylinder persists for a time after the disappearance of its sheath; (3) as a result of this destruction of the higher elements a proliferation of neuroglia takes place, producing the patches of sclerosis; (4) as a result of the complete severance of the nerve fiber, secondary degeneration takes place; (5) the ganglion cells throughout the nervous system show an absence of acute change (in the later stages the cells undergo a chronic change); (6) the vascular changes must be looked upon as secondary in nature (the pathological conditions are suggestive of the presence of a circulating toxine as the cause of the disease); (8) a predisposition to the disease may be (rarely) inherited.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Contribution to the Pathogenesis and Treatment in Certain Cases of Nephroptosis.—RUGGI (*Ann. des Mal. des Org. Urin.*, June 1, 1904).—Clinically we may admit an internal secretion of the kidneys, and that the state of health is dependent upon a proper balance of the internal secretion from the various organs and tissues. The form of disease is determined according to which one of the secretions is at fault. Accordingly we note that a predominance of renal secretion begets several nervous phenomena, and that in movable kidney the internal secretion is increased or diminished by its excursions or disturbed circulation. The thus modified renal secretion occasions an alteration of trophic nerves and the central nervous system, so that a general neurosis is set up.

Surgery of the Prostate Gland.—DEAVER (*Amer. Jour. Med. Sciences*, July, 1904).—This article considers the methods previously devised for the relief of prostatic hypertrophy, its etiology, clinical pathology, symptoms, diagnosis, prognosis, treatment and the technique of special operations. The author rather chooses that procedure which seems better fitted to the case in hand, be it prostatectomy, perineal or suprapubic, or palliative drainage. The Bottini operation does not seem to appeal to him. His method of doing suprapubic prostatectomy does not differ materially from Freyer's, namely: after opening the bladder, to make a longitudinal incision over the most prominent portion of the hypertrophied gland; to then introduce the index and middle fingers of one hand into the rectum, the thumb being against the perineum; with the index finger of the other hand the prostate is rapidly shelled out through the incision over the prostate. The power of procreation is destroyed, but as it is questionable whether the spermatic fluid would be ejected without the contraction of the prostate, and as it is probable that it would not be fertile without the secretion of the prostate, the destruc-

tion of these ducts is a secondary consideration. Thirteen cases done by Freyer's method are reported.

Radical Cure of Cancer of the Prostate.—POUSSON (*Ann. des Mal. des Org. Urin.*, June 15, 1904).—Pousson reports five cases of operation for cancer of the prostate—one case just operated upon; one was lost sight of three months after operation, but was in good health at that time; one was in good health and emptied completely his bladder nine months after operation, and two died of cachexia five months after operation.

The methods of operation that have been undertaken for the relief of prostatic cancer are considered, together with the symptoms and diagnosis. Pousson has collected twenty-three cases from literature, with a mortality of 31.8 per cent. He believes the future will have to decide whether the suprapubic or perineal route is the better, as too few cases up to the present have been attacked surgically. It is clear that cancer of the prostate and bladder develop independently of each other in the majority of cases, and an earlier intervention will bring better results.

Experimental Decapsulation of the Kidneys.—GIFFORD (*Boston Med. and Surg. Jour.*, July 14, 1904).—As a result of a year's work on experimental decapsulation the author draws these deductions:

Following the decapsulation of kidneys in rabbits, in normal dogs, in dogs with induced nephritis, in dogs with infarcted kidneys, and in dogs with normal kidneys but with additional work thrown upon them, I find the following conditions:

1. In all my cases of two days and under and in my controls the entire thickness of the capsule had been removed over two-thirds of the surface by the operation of decapsulation.

2. There is a certain amount of intracapsular tension in undecapsulated kidneys, normal or with nephritis, as shown on removal of capsule.

3. There is an immediate increase in size of decapsulated kidneys persisting up to one month at least; afterwards, a decrease to approximately normal size complete at end of six months.

4. There is congestion, moderate in degree, most marked in the intertubular blood vessels in cortex, lasting three to five days after the operation.

5. No histological change in the renal epithelium follows the operation of decapsulation of kidneys.

6. A new capsule, very vascular, at first, two to four times thickness of old, is well marked at end of eight days. At the end of six months it returns to approximately the normal thickness and vascularity. The new capsule arises chiefly from the connective tissue cells of the intertubular connective tissue, but in part from the retroperitoneal connective tissue which is present in the new bed of the kidney.

7. No new vessels are formed which anastomose with those of the kidney.

8. The increase in size is due primarily to the increase in blood supply, possibly resulting from the removal of the capsule.

When and How Shall We Operate for Prostatic Hypertrophy.—MEYER (*Med. Rec.*, June 25, 1904).—The paper is summed up in these conclusions:

1. In view of the present advanced status of prostatic surgery, the catheter should no longer be advised as a *routine measure* in the surgical treatment of the disease under consideration.

2. Operative intervention should be urged as soon as the time for the regular use of the catheter has come.

3. Prostatectomy, being the most radical as well as the most surgical procedure, commands the first place in the treatment of the hypertrophied prostatic gland, especially since the technique has been perfected to such a point as to render the operation a comparatively safe one, the mortality having been shown to be less than 5 per cent.

4. The perineal route seems preferable to the suprapubic, for the reason that it enables the surgeon to do the operation more under the guidance of his eyes.

5. The choice of route in the average case will probably hinge on the question of preservation of the sexual power, provided this point is of importance to the patient.

6. The patient's age, as such, does not furnish a contraindication to operation: it is his general condition merely that has to be taken into consideration.

7. Where the effects of general anæsthesia are feared, spinal anæsthesia is indicated.

8. If the operation with the knife be refused or contraindicated, Bottini's operation should be advised, since it, too, yields excellent results.

9. Thus, we have two useful methods of operation for prostatic hypertrophy, viz., prostatectomy by the perineal or suprapubic route, and Bottini's operation, each holding its own place, and one complementing the other.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Mercurial Injections in the Treatment of Syphilis.—LEWIS WICKHAM (*The Practitioner*, July, 1904).—The author remarks that in giving injections of mercury a system of intermittent medication must be followed, as is usually observed in all antisypilitic treatment: that is to say, the treatment is carried out in a series of courses, each of which is followed by a period of rest in which the remedy is discontinued. The period of repose is of great importance as it prevents the patient from becoming habituated. Without it, after two months of treatment continued doses produce less and less effect, and the disease behaves as if it were not being treated at all. The danger of such habituation is great, and is one which is often overlooked. At the beginning of the attack of syphilis the periods of rest must be brief—three to four weeks—later on they may be prolonged, calculated on the basis that out of the first

twelve months five should be devoted to the treatment and seven to rest; in the second year there should be four months of treatment out of the twelve; in the third year three months of treatment out of the twelve. Each course of treatment lasts about three or four weeks. At the very beginning of treatment, at the period of chancre, it is necessary to strike hard. Having this object in view the author advises during the first month the use of daily injections, and during this month the biniodide of mercury is used, the dose being gradually raised with all due precautions to 3 c. c. daily. If the attack prove normal and amenable to treatment one may, after three weeks of rest, continue the course with injections or grey oil, which are more convenient, six injections of 6 egm. to 7 egm., being given at intervals of five days. The period of rest which ensues is extended to five weeks. These periods of treatment and rest are so calculated as to reach the total above indicated for the whole year's treatment. The doses, however, should vary according to the tolerance of the treatment and the degree of reaction produced. In men and women of less than average weight the doses must be slightly diminished and this, also, must be the case with old men, but in the latter there is no reason to hesitate to push the doses when the patient's resistance has been ascertained, since it is important to remember that age is one of the grave factors in the prognosis of syphilis. In children, the administration of mercury by the mouth is to be preferred. Children bear comparatively large doses of the drug. In case of syphilis of several months' duration, there must be taken into account the nature of treatment previously adopted as well as the gravity of the case, and in grave and rebellious attacks that mode of treatment which renders it possible at one and the same time to ascertain the susceptibility of the patient and push the remedy energetically is to be preferred; that is to say, injections of the soluble salt, such as the biniodide of mercury in daily doses and increasing amounts. In the author's opinion the injection method of treatment is best calculated to produce the greatest benefits. However, it must be clearly recognized that along with the treatment by injections collateral remedial measures must be carried out, such as tonics and local dressings. The combination of the mercurial salts with large doses of physiological serum, where the weakness of the patient is marked, is excellent, or the physiological serum may be given independently of the mercury.

Preliminary Note on the Treatment of Lupus by Becquerel Rays.—BOUBEYRON (*Gazette des Hopitaux*, July 7, 1904).—For some time the author has had the idea of treating lupus by the prolonged applications of substances feebly radioactive, such as nitrate of uranium and of thorium, pitch blend, etc. The applications are made directly in contact with the tissues. He presents a case of cure of lupus of the size of a five-franc piece cicatrized after thirty days.

Case of Lichen Pemphigoides.—Prof. S. Mendez da Costa (*Monatsft. f. Prakt. Dermatol.*, June 15, 1904.) The author presents a case of this rare complication of lichen planus. It occurred in a man who presented a typical lichen planus which underwent this change. In the study of the case the author believes that the disease is a polymorphic one. It may appear in a bullous form after the picture of pemphigus, the lat-

ter lesions being undoubtedly due to local irritation. Arsenic also in this form acts beneficially.

Note on the Treatment of Multiple Warts by the Internal Use of Magnesium Salts.—ARTHUR HALL (*British Journal of Dermatology*, July, 1904).—It is a well known fact, although some are highly incredulous, that the magnesium salts, through internal administration, have a direct and specific influence in some way upon multiple warts. After the report of a case thus beneficially influenced, the author believes that a possible explanation may be that, granted the disease is due to a micro-organism, it is one of poor resistance and may be destroyed by a very slight alteration of the soil, thus an increase of magnesium salts in the tissue juices, a small quantity of arsenic, thyro-iodine, etc., may be sufficient to retard the further growth of the organism, with consequent shrinking of its new formation and disappearance of the disease. Such a view is consistent with what we observe in other parasitic diseases.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

The Use and Abuse of the Artificial Drum-Head.—MATHER (*Cleveland Medical Journal*, July, 1904).—After giving a brief history of the artificial drum, the author describes the various kinds and their method of application. He prefers the small cotton ball, saturated with a solution of carbolic acid, rectified spirits and glycerine, first described by Yearsly, this being the simplest and most effective. The size and shape of the ball can be ascertained only by trial. Mather has observed in regard to the indications for the use of the artificial tympanic membrane that—

1. A perforation in the anterior superior quadrant is an unfavorable case for its use.

2. A perforation in the anterior inferior quadrant sometimes yields good results.

3. If the ossicles are intact but their articulations broken or separated, with a perforation in any part of the posterior half of the tympanic membrane, the chances for a favorable result are good.

4. If the incus is largely destroyed and a large perforation is present, while the foot-plate of the stapes remains intact and freely movable, although its crura may be entirely destroyed, the result is nearly always excellent.

5. In cases in which there is no perforation, but a stretched, flabby, and freely movable tympanic membrane, the chances are about even, provided the patient hears the tuning fork held in front of the nares while the external canals are closed.

Further Examinations on the Diagnostic Value of the Rhodan Reaction in the Saliva of Ear Cases and in Other Diseases; also on the Presence of Ptyaline in the Saliva of Ear Cases.—JURGENS (*Monatsschrift fuer Ohrenheilkunde*, May, 1904).—The author reviews the literature on the rhodan reaction in the saliva of ear cases and then gives a brief history of forty-nine cases of middle ear disease in which he examined the saliva for the rhodan reaction. His findings in twenty-eight cases, other than ear diseases, such as pneumonia, typhoid fever, erysipelas, etc., are also given. From these examinations he concludes:

1. That when a decided rhodan reaction can be obtained from the parotid saliva the ear on the same side is normal, or only very slightly involved.

2. A negative result in ear disease proves the affection to be a severe one, providing other diseases can be excluded.

3. A weakening of the rhodan reaction shows, according to the grade, more or less involvement of the corresponding ear and can be regarded as a good criterion as to the severity of the disease process. Accordingly the reaction may be absent or present in acute or subacute cases.

4. If the reaction returns during the course of a middle ear affection it shows the benign course of the disease, or if the reaction should disappear the course of the disease can be regarded as unfavorable.

5. If in middle ear inflammations the process has apparently subsided and the discharge has ceased and there is a negative reaction, it shows that nerve structures in the middle ear have been destroyed, or that the process will soon be active again. When there is a decided positive reaction the proof is established that the process has subsided.

6. That the rhodan reaction can be made in cases where an otoscopic examination is impossible, as in the cases where the canal is occluded, it then becomes a very valuable diagnostic and prognostic aid.

7. The presence of ptyaline in the saliva is not dependent on the function of the nerves of the middle ear. Ptyaline was always found when no trace of rhodan could be obtained.

The Application of Conservative and Radical Surgery to Chronic Nasal Accessory Disease.—CANFIELD (*Medical News*, July 16, 1904).—The author has observed some two hundred cases of chronic disease of the different nasal accessory sinuses treated radically, and one hundred and ten cases treated conservatively. Upon the majority of these he operated himself. After carefully studying these cases the writer concludes that conservative methods are successful in nine out of ten uncombined cases, and should always be given a thorough trial before recourse is had to radical measures. Uncombined empyemas are not uncommon. Difficulty in healing is not always in direct proportion to the duration of the disease. Drainage of the antrum is most satisfactorily obtained through the nose. The ethmoid is the chief cause of chronicity of the obstinate combined cases. The sphenoid is readily accessible through the nose in a large per cent. of cases. It can be probed in 90 per cent. of the cases. Establishing free nasal respiration is important in securing permanent results. The radical operation should be resorted to infrequently. The best radical antrum operation is the modified Luc-Caldwell. The best frontal operation is that of Killian. Frontal sinus operations not closed

at the time of operation cause deformity. Great care must be taken of the eye at the time of operation. Accidents to the eye are: (1) Loosening the pulley of the superior oblique causing diplopia, and (2) dimness of vision due to (a) extraocular causes—lacrimation, conjunctivitis; (b) intraocular causes—iritis, neuroretinitis.

The Treatment of Middle Ear Disease by Means of Electric Light.—MEYEROWITZ (*Roussky Vrach. rev. N. Y. Med. Jour.*, July 16, 1904) reports a series of cases of middle ear diseases, acute and chronic, in which he obtained excellent results by the reflection of electric light directly upon the ear drum and through it into the middle ear. At first he tried blue light, thinking that the so-called chemical rays had greater influence upon the inflammatory processes, but he found that such light in the ear, after a short exposure, produced marked inflammatory reactions; therefore he confined his experiments to ordinary incandescent lamps adapted to special apparatus, which could be screwed to an ordinary ear speculum in such a manner that the light fell directly into the ear and the incandescent lamp was so arranged as to be constantly surrounded by a slow stream of water, which kept it cool. Usually the sitting lasted about fifteen minutes. In two cases of acute catarrh, three or four sittings were sufficient to remove all the symptoms. In some cases of dry catarrh very fair results were obtained, but the experiments have not yet been completed. In four cases of catarrh with exudation, including both acute and chronic types, the electric light caused the absorption of exudate and the disappearance of the symptoms.

The Treatment of Aphonia Spastica by Means of Mechanically Influencing the Formation of the Glottis.—BARTH (*Archiv fuer Laryngologie und Rhinologie*, Band 16, Heft 1) reports three cases of aphonia spastica in which he was able to bring about a return of the voice to the normal by inserting a probe between the vocal cords after cocaineizing the larynx, and then having the patient attempt to phonate. In one of the cases, which was of three years' standing, the condition returned at the end of a few hours, when a larger probe was inserted with the result that the voice remained normal for several weeks, when the voice was again suddenly lost. A repetition of the same procedure brought about a return to the normal which has continued. The second case was only of two or three weeks standing. The same treatment was applied with the result that the voice has remained normal ever since, a period of over two months. The third case was one of two years' standing. One application of the sound brought about a return to the normal. However when the patient becomes excited the voice is lost, but after a few moments he regains control of this faculty.

On the Treatment of Pharyngitis Granulosa and Lateralis.—HERZFELD (*Monatsschrift fuer Ohrenheilkunde Jahrg. xxxviii*, No. 5).—After calling attention to the fact that he was the first to recommend the removal of the granula and thickened lateral folds in cases of pharyngitis, in which it could be proven that they were giving rise to such symptoms as cough,

feeling of foreign body, etc., the author goes on to describe a modification of the punch forceps he formerly employed. The removal of these granula are of special value to speakers and singers. However he warns against the too extensive removal of the pharyngeal mucous membrane, as the resulting scar-formation will greatly embarrass the speaker or singer. The removal of the lateral thickenings (seitenstränge), especially that portion which extends into the nasopharynx is frequently followed by an acute pain in the ear which may last for several hours. The wound usually heals in about two weeks.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Two Peculiar Cases of Melanotic Sarcoma of the Conjunctiva.—R. W. DOYNE (*The Ophthalmoscope*, July, 1904).—The unusual feature of these two cases consisted in the presence of pigmented areas in the conjunctiva wholly unconnected with the pigmented growth. In the first case the tumor was located at the inner canthus, the pigment stain appearing on the conjunctiva of the upper lid. Nine months after removal of the growth, which recurred locally, the pigment stain had entirely disappeared. The recurrences did not affect the original pigmented area. Death supervened five years later from metastasis in the jejunum and liver.

In the second case a "sooty" stain of the conjunctiva of the lower lid accompanied a pedunculated pigmented growth of the conjunctiva of the upper lid. The tumor recurred eight months later and was excised. A morsel of the stained area of the lower lid was removed at the same time and subjected to microscopic examination. It showed merely scattered pigment beneath the epithelium and deeper down large pigmentary cells.

Case of Orbital Mucocoele Operated on by Krænlein's Method.—H. R. SWANZY (*Ophth. Review*, June, 1904).—A woman, aged fifty-four, presented a soft elastic tumor below the supraorbital margin. The exophthalmus was forward and slightly downward. Temporary resection of the outer wall of the orbit after Krænlein's method revealed a mucocoele extending to the frontal sinus and probably into the ethmoidal cells. Four ounces of mucus were evacuated, the walls of the cavity dissected away and curetted. Forward protrusion disappeared entirely, but some downward remained. The deformity was surprisingly slight.

Optic Neuritis Following Smallpox.—A. F. FERGUS (*Ophthalm. Rev.*, July, 1904).—A convalescent from smallpox observed in one eye dimness of vision equalling 6-12, not improved by glass. The ophthalmoscope showed blurring, hyperemia and loss of transparency in the papilla. No swelling or retinal hemorrhages and but little tortuosity of

the vessels. The fundus of the fellow eye was normal in all respects. The light sense, as determined by Bjerrum's light sense types, was notably diminished. The visual fields for white light were greatly contracted in both eyes, the right rather more than the left. Evidence of syphilis or any form of peripheral neuritis was absent.

Bullous Keratitis; Fatty Degeneration of Bowman's Membrane.—A. E. EWING (*Am. Jour. Ophthalm.*, June, 1904).—The writer gives a resume of the histologic findings and conclusions of various investigators from V. Græfe to the present time on the subject of bullous formation often occurring in the cornea of glaucomatous eyes. The paper is based on the histologic examination of an eye long blind from glaucoma, the sections showing the following steps in the formation of the bulla: (1) The presence of fatty vacuoles in Bowman's membrane and absorption of vacuolated epithelium. (2) Fatty degeneration in the anterior limiting membrane which is partially absorbed and degeneration of the corneal fibres. The contents of the vesicle is mostly fluid. (3) The bulla is now well established and regeneration has begun, as shown by the increase in the number of layers of the epithelium and the absence of indentation along the outer wall of the vesicle. (4) The appearance of fibrin, wandering cells, spindle cells and, finally, blood vessels, in the vesicle. The writer sums up as follows: "The sections show that bullous keratitis attendant on advanced glaucoma is not primarily an affection of the epithelium, but a form of necrosis of the anterior limiting membrane in the destruction of which the epithelium is forced to take part."

BOOK REVIEWS.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Volume IV. Gynecology. March, 1904. Edited by E. C. DUDLEY, A. M., M. D., and WILLIAM HEALY, A. B., M. D. The Year-Book Publishers, Chicago.

This volume presents a clear and complete resume of all the original work done in the field of gynecology during the past year. An examination of the book easily shows that Dr. Dudley took care in selecting the papers worthy of consideration; that, however, the space given to abstracts of his own work is decidedly out of proportion.

ELEMENTS OF GENERAL RADIOTHERAPY FOR PRACTITIONERS. By Dr. LEOPOLD FREUND (Vienna). Translated by G. H. Lancashire. Rebman Company. 1904. New York and London.

There is a just demand for a practical treatise such as we have before us on radiotherapy, a book sufficiently elementary to be comprehended by those who have not the time to devote to the more technical study of the subject. Dr. Freund's thorough knowledge of light in all of its therapeutic forms and applications, places him in a position second to none. The first chapter is devoted to the elementary study of electricity, and is written in such a way that many a complicated point is rendered clear and practicable. The second chapter treats of the high frequency currents which have lately been introduced for various general and local diseases. A comprehensive article upon x-ray therapy is included in the third chapter, and the various methods and techniques are discussed. The fourth chapter is devoted to the Becquerel rays, and the fifth and last to the numerous treatments with heat and light.

The book is scientific and practical, and it is a safe guide for those engaged in any form of light therapy. An appendix upon instrumentation, dealing with the mechanical part of light production, is written by Clarence A. Wright, F. R. C. S.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Volume V, Obstetrics. Edited by JOSEPH B. DE LEE, M. D. April, 1904. The Year Book Publishers, 40 Dearborn street, Chicago.

We take pleasure in stating that this volume is a particularly good one of the series. By casual critical remarks, by briefly citing his own observations, either in support or in opposition of a certain writer's contention, De Lee deprives this volume of the monotonous character peculiar to such publications. This review of the obstetrical literature of the past twelve months offers not only interesting and instructive, but decidedly agreeable reading.

DOCTOR AND PATIENT. By S. WEIR MITCHELL, M. D., LL.D. Fourth edition. Philadelphia and London: J. B. Lippincott Co. 1904.

Ever since its first edition appeared, seven years ago, this little book has enjoyed an unflinching popularity among the medical profession. It is almost unique among medical publications in that it not only contains much matter of interest and value to every physician, but it is peculiarly fit to be placed in the hands of the patient himself. The first chapter on "The Physician" is one of the most charming in the book. A patient standing before the portrait of the great William Harvey once asked Dr. Mitchell, "I should be a little curious to know how he would have treated my case." With this as a text he tells of the great physicians of old, Harvey, Cardan, Sydenham, Rush and others, and shows that their practice was far in advance of their theory. What distinguished them from their fellow-practitioners were just the qualities that mark the great physician today, a lively interest in every aspect of a case, a keen insight into

all the circumstances effecting the patient and his malady and a constant preference for hygienic and dietetic modes of treatment. He goes on to discuss some of the many personal problems that have confronted physicians in all ages and illustrates them by means of many an illuminating anecdote. A delightful chapter on "Convalescence," based on an experience of the writer's own, follows. The rest of the book, while of great interest to physicians, too, is preached more directly at the laity. On, in particular, "The Moral Management of Sick or Invalid Children," emphasizes the need for restraint and terrible effect on the character of the little sufferer of over-indulgence, and should be read by all parents of invalid children. Other chapters concern themselves, with pain and the opium habit, nervousness and its influence on character, outdoor and camp-life for women. Any physician who has not read the delightful little book has missed a great pleasure.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles by Leading Members of the Medical Profession Throughout the World. Edited by A. O. J. KELLY, A. M., M. D. Volume 1. Fourteenth Series. 1904. Philadelphia: J. B. Lippincott Co.

This volume follows in the footsteps of its predecessors. Two of the articles are by French clinicians, the rest are by Americans. One of the most instructive is by Carl Beck on "Angioma and Its Treatment," illustrated by three colored plates of unusual beauty and by many half-tones. The volume concludes with an adequate survey of the progress in medicine during 1903 in internal medicine, surgery and treatment. The general get-up of the volume is, as usual, excellent.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Vol. VI. General Medicine. Edited by FRANK BILLINGS, M. S., M. D., and J. H. SALISBURY, M. D. May, 1904. Chicago: The Year Book Publishers.

This is one of the best volumes of the series. It concerns itself chiefly with a few of the infectious diseases, especially typhoid fever and with diseases of the digestive tract. It is not merely a brief summary of articles published during the past year: important cases are reproduced with considerable detail, and pathologic and therapeutic matters are adequately treated. A valuable feature is the critical discussion by the editors of the more important articles abstracted. A fairly good index closes the volume.

THE THERAPEUTICS OF MINERAL SPRINGS AND CLIMATES. By I. BURNEY YEO, M. D., F. R. C. P. Chicago: W. T. Keener & Co. 1904.

The use and selection of baths and climates in the treatment of disease are topics that have occupied the attention of European physicians to a far greater extent than is the case with us, as is shown by the great number of bathing and health resorts scattered all over England and the continent where patients may obtain rational and skilled treatment under the care of scientifically trained physicians. In this country, too, the medical profession is awakening to the importance of this branch of therapeutics, and while this book concerns itself only with European conditions, it may well prove of value to American physicians, not only those who are planning to send patients abroad, but also those who wish for a general knowledge of European health-resorts. The volume is divided into two parts. The first is devoted to the study of mineral springs, the introductory chapters being concerned with certain general considerations and the vast number of mineral-water resorts being described in alphabetical order. The second part is concerned with the subject of climates. Its chief object is to serve as a practical guide to the characters and applicability of such climatic resorts as are fairly accessible to English invalids. The health resorts of Colorado and California are briefly discussed and a few lines are devoted to Old Mexico. The English colonies in the Western Hemisphere are treated at greater length.

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ORIGINAL ARTICLES.

EXCISION OF THE CLAVICLE.

By N. B. CARSON, M. D., of St. Louis.

There seems to be doubt as to whom is to be credited the honor of having first excised the entire clavicle. Treeves¹ gives McCreary, of Kentucky (1811), the credit of having first removed this bone in this country, while Gross² says that Remmer was the first to excise the clavicle in 1732, while Rudolf Zabel³ says the oldest known total extirpation of the clavicle was done by Moreau and D'Angerville of Paris, in 1765, and that the operation by Remmer, which by most authors is considered the oldest, was without doubt not a total but only a partial extirpation. O. Heyfelder⁴ gives credit to Meyer for total (1823), and to Casseholm for partial extirpation (1719). A careful consideration of the literature leads me to conclude that Zabel is correct and that Moreau and D'Angerville were the first to perform total extirpation of the clavicle.

The bone has been removed entirely or in part for caries and necrosis, morbid growth and displacements the result of disease. Gross says Mr. Davie, many years ago, excised the inner extremity of the clavicle in a case of dislocation backwards from deformity of the spine, the luxated head causing such a degree of pressure upon the esophagus as to endanger life by inanition.

The transactions of the London Pathological Society record the removal of a few examples of sarcoma of the clavicle post-mortem. In one instance the growth produced death by pressure on the trachea within seven weeks after its known commencement.

The operation of excision of the clavicle, in part or entirely, on account of caries or necrosis has been to me a very easy operation, although some writers consider it quite serious. Several times I have removed quite a considerable part of this bone involving one or the other of the extremities or shaft, and have not considered the procedure worthy of more than bedside note, as the operation consists of simply enlarging the already existing opening and lifting the diseased fragments from their bed.

On the contrary, the excision of the clavicle for morbid growth is an operation of the most serious character, both on account of the immediate

and ultimate dangers. Velpau¹ calls the operation a daring attempt, never carried into effect except in a few cases of operation upon the shoulder. "Yet," he says, "there are circumstances sufficiently numerous which require this operation if we wish not to abandon the sufferers to certain death!"

Gross², in speaking of the difficulties presented by the two operations, the one for necrosis and the other for tumors, says. "But the case is widely different where the clavicle is buried in a large mass of disease; when the circumjacent structures are all intimately matted together by morbid deposits; and where not only the great vessels of the neck, but likewise the principal nerves and thoracic duct are in close proximity to the affected bone, as in the case of Mott," (requiring over forty ligatures and four hours for its completion.) "Under such circumstances the operation must be of extraordinary difficulty, demanding the greatest patience, skill and anatomical knowledge for its successful execution."

While I can appreciate the difficulties that may be encountered in this operation, I was much surprised at the ease with which it was accomplished in my case, although the tumor was of large size and involved the external end. A study of the literature also made me think the dangers more imaginary than real, and that the operation, with ordinary care and a thorough anatomical knowledge, should be one of very small mortality.

Searching the literature I find forty-nine well authenticated cases of removal of the clavicle, in part or entirely, for tumors simple or malignant, with forty-two recoveries and seven deaths, a mortality of 16 per cent.; of these, forty were for osteo-sarcomas and four carcinomas, three simple or non-malignant, and in one the character of the growth was not given.

Delatour³ has collected forty cases, with a death rate of 18 per cent., and Barling twenty-four cases, of which number six died within five weeks, but in two of them death cannot be attributed to the operation as one died from brain tumor, the other from hæmatemesis. Barling thinks this rate, 16 per cent., may be unduly low, as some of the unsuccessful cases probably remained unrecorded. Of the eighteen patients who recovered he has been able to trace only twelve, and some of those but for a short time. Five were either dead or dying, or recurrence within twelve months of excision. Four were well at periods varying from three to twelve months after the operation, and of the three remaining one was alive three years and another ten years, while the third one, Mott's case, remained well fifty-four years.

Of the forty-nine cases collected by me I find the records of eighteen, including Barling's three cases, of these nine survived the operation from two to fifty-four years, eight died from return of the disease in from eleven days to five months, and one died within three months from fracture of the skull. From a study of the reports of cases one must be

impressed with the utter improbability of arriving at any satisfactory conclusion as to the ultimate results in these cases, and whether with the high mortality the operation is justifiable. Barling says, "In estimating the degree of malignancy of these growths of the clavicle, one is hampered by the absence of exact information as to the nature of the tumor, and as to whether it arises from the periosteum or the medulla of the bone. I think, however, that the details I have related are sufficient to show that the immediate mortality of excision of the clavicle for growth is not so great as might have been anticipated, and that the prognosis as to recurrence and dissemination is better than it is after amputation for sarcomas of the bone of the lower extremities."

It is remarkable how little deformity follows in the cases that recover from the operation, and how little impairment of function results, and how rapidly function is restored. "In Traver's case the boy had complete power over his arm in all directions, and only a few months after the operation was amusing himself by rowing on the Thames." Jesset's case, "eleven weeks after the operation had perfect motion of the arm in every direction, being able to play the piano, dress her hair, etc." Brittons' case, a coal heaver, was able to use his pick as well as ever, and could carry heavy weights on the shoulder from which the clavicle had been excised, while on the sound side he had no such power." Caddy, speaking of the result in his case says, "The movements were perfect, and being a well drilled man he took care that his right shoulder should never drop, so that when clothed no one could notice any difference in the two shoulders; this was probably due to the fact that the outer third of the clavicle being left behind, the clavicular attachments of the trapezius and deltoid muscles were not interfered with. In my case the patient could move the arm more or less freely when she left the hospital, but it was too soon to determine what would be the result as to restoration of function. The patient, a young woman of eighteen years of age, came under my care in the hospital on February 2, 1904, giving the following history: No hereditary disease in family known, habits good, had usual diseases of childhood without bad results, was never very strong or healthy. Last July, after an attack of measles, felt pains at sternal end of clavicle and along sterno-cleido muscle of right side. About two weeks later noticed some enlargement. Part continued painful with occasional sharp, shooting pains. The tumor increased slowly until about two months before coming to the hospital. It then commenced to increase rapidly, and when I saw her the growth extended from near the middle of the clavicle and stood 5 C. M. above the surface, and was 10 C. M. in length, while it measured downward $9\frac{1}{2}$ C. M. and obliquely $9\frac{1}{3}$ C. M. Physical examination revealed nothing abnormal. Urine examination normal. Blood count: White corpuscles, 7,440; red, 4,160,000. Hæmaglobin, 45 per cent. The operation was done on February 8th, and required forty minutes and only one ligature. The

patient made a good recovery and left for home February 20th. While in the hospital she had pains involving the sciatic nerve, which led us to suspect a possible involvement of the cauda equina, which proved a correct conclusion, as these pains increased to such an extent as to require three grains of morphine daily. Dr. Jones, who had charge of the case, wrote me that the patient died on the 26th of April, the tumor having returned at its original site with metastasis in the frontal and occipital region of the scalp, and in the inferior maxilla and probably in the spine.

Since writing the above Dr. J. C. Morfit, of St. Louis, has removed the entire clavicle, the upper portion of the sternum, and the sternal end of the first and second ribs for osteo-sarcoma of the sternum and the sternal end of the clavicle. The operation was done on the 4th of August and up to this time (August 11th) the patient is doing well.

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PSYCHOTHERAPY IN CHILDHOOD.

BY PROF. JULES COMBY,

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The moral influence which the physician can have over young patients is considerable. This influence may be used therapeutically, although the majority of practitioners neglect it. Many among them use psychotherapy without knowing, but all physicians would be the gainers by appreciating this part of therapy, which should play a role in the treatment of very many diseases. Psychotherapy demands, on the part of the physician, constant good humor, a countenance smiling without effort, a sobriety of manner studied but apparently natural, an attitude calm but not frigid, firm but not hard. In short, one must be consciously composed without seeming to be so. This is particularly indispensable in the first interview, so often decisive for the authority of the physician over his patient, for the confidence of the patient in his physician.

Adults, more sensible to delicate variations of impressions, appreciate these things better than children, but the latter are by no means insensible to these influences, and the physician should recognize this.

Thus in the case of even young children, we should approach them quietly, without brusqueness, and calmly with a countenance expressive of kindness and good intent. But it is often necessary to use firmness in recalcitrant cases. If persuasion does not succeed, force without brutality should be used resolutely (hand of iron in the velvet glove).

It is necessary to give directions with authority, to speak with assurance of voice and preciseness of mien. One can reassure by well-chosen words, by the promise of immediate relief and early cure. Such procedure comforts the patient and has a very good effect.

In nervous diseases, the psychoneuroses, psychotherapy is indispensable and all sufficient. A psychic disease yields to psychic treatment (Dubois). For instance, all manifestations of hysteria may be relieved by suggestion. Children, even when young, yield to suggestion very readily, and I have succeeded by this means in rapidly curing astasia-abasia, hysterical paralyses, tremors, various ties, nervous dyspnea, hysterical coxalgia, etc. In neurasthenia, psychic treatment is necessarily of much longer duration, but it can be successful if used with method and perseverance.

In order that psychotherapy be successful, it is necessary, very often, that the child be isolated away from its immediate family. Thus removed from its own people, it obeys the suggestion of the physician much better and recovers more rapidly.

The use of psychotherapy does not exclude other methods of treatment. It may be advantageously combined with rest, alimentary hygiene, hydrotherapy and kinesotherapy, etc.

When an older child, an adolescent youth or a young girl, shows sudden bizarre manifestations, certain weakness which is not to be explained, certain exaggerated pains, it is necessary to avoid laying too much stress on such symptoms to avoid taking them too seriously. Their recital should not be listened to with an air of too much sympathy nor should any alarm be manifested. Because otherwise the symptoms themselves become aggravated in the mind of the patient, the complaints become much increased in their intensity, through a process of veritable suggestion which increases the gravity of the condition in the patient's eyes immeasurably. Thus a slight fall, followed by transient pain, if treated in the wrong way, as by the application of compresses, enforced rest, etc., may be the starting point of an hysterical coxalgia or an astasia-abasia. It is much better to treat the whole affair lightly, even with indifference or disdain, in order to reassure the child and prevent his acquiring a neurosis. If necessary, such maneuvers as massage, gymnastics or passive movements may be used to aid in the process of suggestion. Such measures act better on the mind of the child

than on the disease itself. If it is too late, if the psychoneurosis has already taken form, the task of the psychotherapist becomes much more difficult. But even then by auto-suggestion, or by the suggestion of the immediate family or of the physician, success will come if enough confidence is had in the psychic means of treatment. According to the individual case, the procedure will be brusque or devious and strategic. Appeal will be made to the reason of the patient. He will be made to master his nerves and to put into play all his moral energy. And success will come in one, two or it may be in several trials.

I was called recently to see a boy of seven years, very nervous (father a neurasthenic, mother the victim of migraine), who had suddenly been seized with severe pain in the left knee with absolute loss of function. He refused to walk and kept the leg flexed on the thigh. When he was put down he cried and hopped on the sound leg. Parents very much frightened. I was not able to detect any redness or swelling or any sign of arthritis about the knee. The movements of the thigh on the pelvis were free without muscular contracture (no coxalgia). General condition good: no fever. I ordered rest and a sedative. Next day, condition unchanged. Persuaded that there was nothing wrong, I stretched the child on a bed, played with him, executed the movements of flexion and extension of the leg on the thigh, grasping both feet I stretched the whole body, drawing the child from the head to the foot of the bed, pretending to draw a sled. The child laughed aloud and forgot his trouble. I put him on the floor, when he refused to walk, complaining again of the pain in his knee. Speaking then with a certain authority, I said to him: "This is nothing, and tomorrow at this hour you will be able to walk. If not, your people will telephone me and I shall come again." The next day the child walked and played about the room; he was cured. If instead of such psychotherapeutic treatment, this treatment of disdain, the leg had been wrapped with compresses or bandages, or had been immobilized in a splint, an hysterical coxalgia or an astasia-abasia would probably have been set up, which would have lasted for a greater or less length of time.

In two girls of ten and twelve years, who had nervous dyspnea pushed to the point of cyanosis of the lips (in one case the diagnosis of adherent pericardium had been made), I dissipated all symptoms in two or three sessions by suggestion. Having examined the children in hospital and discovered that there was nothing wrong with heart or lungs, I said to them: "I have examined you from head to foot without discovering any diseases: you can get well very quickly if you wish. Your manner of respiration and your attacks of suffocation are purely nervous: I forbid you to breathe in this manner: you can easily make your breathing slower; these performances of yours are ridiculous. If you want to leave the hospital, and you do, you will have to breathe like everybody

else." Cure was complete in two days in one case and in three in the other.

All hysterical manifestations in childhood are thus curable by suggestion, by conversation, alone, without the use of hypnosis, electricity, douches or bromides.

To succeed, the physician must give out some of his own personality. He will inspire confidence in his patients, he will become their friend by showing them his interest and his sympathy, sometimes even by shocking them; always showing, however, that he is occupying himself with their case. He must speak easy to his patients without having the air of being hurried, without prolonging the interviews (which must be repeated sufficiently often) unnecessarily.

In this way one may rapidly acquire an influence over the spirit of his patients, may then begin the education of their will power, may show them the art of controlling their actions, their ideas, their false and unreasonable conception of things, their illusions, etc.

The external manifestations of which these patients complain, such as the pains, the tremors, the paralyses, etc., do actually exist, but it is after all the brain which perceives them, which governs, makes them less severe and even, at times, causes them to disappear. But it is necessary to will to do, that is, to put in play a psychic force. This psychic force exists latent, ignored, dormant, in a brain which is unbalanced. It is the duty of the physician to reawaken this force in his patients, that it may be serviceable, by his presence, his kindness and his wise counsels.

HARVEST WOUNDS.

BY D. W. BASHAM, M. D., of Wichita, Kansas.

I have chosen the theme Harvest Wounds, because this heading may be made to include wounds inflicted by the corn sled and the ordinary corn knife, as well as injuries inflicted by the reaper sickle.

I do not regard the reaper nor the mowing machine as being such a prolific source of serious injuries as the corn harvester, most of which are armed with a large knife in place of a sickle.

In the case of the reaper, which is a highly perfected agricultural implement, the operator is securely seated at a safe distance from the dangerous parts of the machine, and when obliged to descend in order to lubricate the machinery or remove obstructions from the sickle guards, or repair a broken part, he is able to stand behind the sickle bar while at work, thus diminishing the danger of accident.

It is very different in the case of the corn harvester, which is less highly perfected in point of mechanism, and which varies in form from the crudest efforts of the blacksmith in the country to some very efficient models by the large manufactories:

The corn harvester is productive of many deep joint wounds, the joint often being laid open and exposed in its entirety. Often, when the joint is not involved, the muscles, tendons, blood vessels and nerves are severed down to the bone.

It is quite evident that wounds of this kind demand extraordinary skill in their treatment, for we must always bear in mind that simple healing is not, unless accompanied by restoration of function, the ideal aim of surgery.

The corn sled is the most dangerous of agricultural implements, and is productive of many wounds of a serious nature every autumn. Corn sled injuries generally involve the lower part of the leg, and the foot. They are generally the result of accident, as slipping of the leg in front of the knife while the sled is in motion. The muscles and other structures of the calf may be divided down to the bone. The ankle-joint is sometimes opened in this way.

The bleeding is often profuse, and these wounds are often seriously infected and treated in the very worst manner possible by a fellow-laborer or other unskilled persons in the effort to render assistance in arresting hemorrhage.

These wounds are sometimes filled with filthy materials to induce coagulation of the blood, and sometimes the limb is corded far above the injury until permanent damage is done to the circulation.

It will be seen that corn sled wounds are usually incised wounds. Wounds produced by the ordinary corn knife usually involve the knee joint or the anterior tibial surface of the leg, and as a rule the left leg is the site of the injury.

The reaper generally inflicts a ragged, lacerated wound, or a punctured wound, according as to whether the moving sickle or the sickle guard is the vulnerating agent. The pointed guard shielding the sickle is sometimes driven into the hand or foot or other part of the arm or leg.

Fingers are sometimes lopped off by a sickle, and frightful lacerations of the soft tissues, covering the shafts of the long bones of the forearm, or the leg, are often seen. The ankle joint is sometimes laid open by the sickle and pieces of clothing or other extraneous material may be carried into the tissues.

Occasionally there is a crushing injury of the fingers, due to getting the fingers engaged in a cog-wheel system.

Injuries inflicted by the threshing machine nearly always involve the hand and forearm, and are the result of allowing the hand to come in contact with the cylinder. The vessels and nerves are often reduced to shreds, thus endangering the vitality of the member.

Without going more into detail in the classification and description of these wounds, it will be readily seen that every principle of surgery may be involved in their management.

It is often necessary to suture the divided tendons and nerves. Some-

times the belly of a muscle, or even a set of muscles is destroyed, and it may be necessary, in order to have healing with restoration of function, to implant the remaining part of the tendon into a neighboring muscle.

The fact is, in repairing one of these wounds you should be governed by the same principles that you would observe in putting a piece of machinery together; that is to say, reunite the divided structures, leaving everything as nearly as possible as it was before the accident. Sometimes an inch or more of a tendon may be destroyed and it will be necessary to lengthen the tendon so as to be able to approximate the ends without too much tension.

If a main artery is divided, it is perhaps right to endeavor to suture the vessel, but the procedure usually results in thrombosis and occlusion, and the result is exactly the same as if the vessel had been ligated. Even the fascia should be reconstructed in its normal extent and relations to the other tissues, in order that the muscles may glide in their own proper sheaths, and that the articulations and the digits may recover their full functions when healing is complete.

In the treatment of a seriously lacerated wound, as is very often seen when the hand has come in contact with a rapidly revolving cylinder of a threshing machine, it may be a question of immediate amputation or endeavoring to save the limb.

An effort to preserve the member should always be made if there is reason to believe that there is left arterial blood supply to maintain vitality.

There are two good methods of procedure in the management of these doubtful cases: Constant irrigation with warm saline or boric solution and enveloping the injured part in dressings wet with the solutions and maintaining warmth by the application of hot bottles to the outside of the dressings. Constant immersion in sterile normal saline solution is a good method, where there is not too much capillary oozing from the wounded parts.

Heat is a valuable means of diminishing the danger of gangrene.

Sometimes the haemostatic constrictor is applied to arrest hemorrhage during the removal of the patient from the field, or while waiting for the surgeon to arrive.

Laymen often employ a piece of cord as a tourniquet, and as a rule it is applied far above the location of the injury, thus inviting gangrene and facilitating its extension to parts not involved in the injury.

Sometimes physicians commit this same fault. When no regular tourniquet nor Esmarch apparatus is at hand a number sixteen or eighteen soft rubber catheter makes an excellent extemporaneous device.

The tourniquet should be applied just above the injury, that in case of amputation or supervention of gangrene no more tissue may be sacrificed than necessary.

In case of an incised wound of a joint the cavity of the articulation should be abundantly irrigated with warm saline solution and the joint should be closed in by approximating the structures layer by layer with catgut sutures with all the care and precaution that we employ in caring for the peritoneum in performing a coeliotomy.

The tendons should be brought together *seriatim* and stitched with catgut where they have been divided in front of a joint.

The large nerves should also be sutured.

The surgeon should not become discouraged nor suffer his patient to do so if motion does not return as soon as a wounded joint is healed, for if suppuration has not been present there will be a certain degree of function restored after a time more or less delayed.

In the case of bisection of the large tendons, like the Tendo-Achilles, which is often divided in corn sled accidents, much difficulty may often be encountered on account of the tendency of the sutures to cut out and allow the ends of the tendons to retract.

There are two ways of evading this difficulty which may be employed separately or in conjunction. The one is to lengthen the tendon by cutting half way through its substance at a distance of an inch and a half or two inches from the end, then splitting down to within half an inch of the extremity and turning the upper end of the split tendon down to meet the lower fragment.

The other is to flex the leg in such a way as to take the strain off the tendon and thus prevent the stitches cutting through. In fact when tendon suture is done in any case whatsoever the articulation should be flexed or extended as the case may demand to diminish the tension in the muscle or set of muscles involved.

Preliminary cleansing of foreign material and the disinfection of wounds are, of course, matters of undisputed importance in beginning the treatment of any traumatism, and their worth cannot be exaggerated in regard to the class of injuries now under consideration.

There is no better agent known than mercuric chlorid, intelligently employed. A one-to-two-thousand aqueous solution is strong enough to render the tissues free from infection. It is well to follow the use of the bichlorid with a normal salt or boric acid irrigation to lessen the likelihood of sublimate poisoning from absorption.

Drainage is another matter of importance in the management of these injuries. They are not like clean operation wounds whose smooth surfaces unite in two or three days, but on the contrary there are many pockets and dead spaces to fill with secretions from the torn surfaces.

The employment of immense rubber tubes or large pieces of gauze or wicking as drainage is not necessary, and is perhaps to be deprecated, but a few strands of sterile silk or silk-worm gut are sufficient and should always be placed where accumulations are most likely to occur. Two to four days is ample time to drain an aseptic wound.

SOME FACTS TO BE CONSIDERED IN THE TREATMENT OF INEBRIETY.

BY T. D. CROTHERS, M. D., of Hartford, Conn.

Every year brings an increased necessity for more practical knowledge of the spirit and drug takers, who are constantly increasing in all circles of society. Already the disease of inebriety is outlined, and the vast chains of conditions and causes stretch out into wide, unexplored fields that are governed by laws which will be clearly understood in the future. The great army of inebriates, projected from the front line of civilization, extending back through all grades of society, are but the victims of physical causes, and the results of conditions which await further study. Such study must be thorough and exhaustive, and include all the conditions of inheritance and surroundings of mental and physical life, and of the time and circumstance of the first toxic use of alcohol. From these facts will appear some of the laws which control the development and progress of this malady. The following statement will represent the problem in its general bearings: Among all classes, and in all sections, are found men and women who persistently use alcoholic drinks to excess, suffering both directly and indirectly in health, character, position, also in social and pecuniary interest. This they continue to do, against all motives of self-interest, influence of others and considerations of right and wrong, either slowly or rapidly going down to ruin and death. Through all this there is an appearance of health, and often a keen recognition of the situation, but rarely any successful effort to recover. Looking at these cases more clearly, they seem to begin in some regular order and follow a line of conditions and circumstances that are more or less uniform. That is, we may recognize a general chain of cause and effect, and note a continuous progress in each case, which is parallel. This suggests a physical origin, and if we make a record of the symptoms of two cases, as seen month after month, a more striking similarity will appear. Not unfrequently this is so marked that we can predict, from some general knowledge of the patient, much of the future progress of the case.

The form and character of the degeneration in inebriety will be found to be very closely related in all cases and to follow a natural course from stage to stage. It may be stated that a careful study of inebriety indicates certain conditions of body and mind which either intensify or antagonize the development and progress of this disorder. No application of means or remedies that are not based on these facts, or that do not recognize the physical changes which have taken place, can give any promise of permanency in the treatment. Here, as elsewhere, we must recognize the causes before any intelligent treatment can be applied. In inebriety we have two prominent factors always present in the causation of each

case. The first and most prominent to the general observer is the use of alcohol; this may be both a primary and secondary cause, but in either case there are certain pathological changes always present during the progress of the case marked by certain fixed symptoms that rarely vary or change. The second are the conditions of degeneration, either inherited or acquired, that are present before alcohol is used, and break out into an inordinate desire for alcohol, or conditions of exhaustion, for which this drug seems to give relief. In the former case, where alcohol appears to be the primary cause, there will be found many complex conditions: pathological changes coming from the different alcohols that are practically unknown. Recent studies have shown that the toxical action of different alcohols depends upon the kind of alcohol, the substance from which it is made and the process of manufacture, also the natural chemical combinations which follow after its manufacture. These different alcohols, when taken alone, produce different physiological effects on the body. For instance, one form of alcohol will cause profound stupor, another will produce intense hyperæmia of the brain and delirium, a third is followed by muscular tremors and reduction of temperature, etc. The study of a few of these alcohols seems to indicate that each one has a special physiological action over the brain and spinal cord. If we consider the almost numberless forms of alcohol, and their equally complex combinations in the various forms of drink used, and the still more uncertain physiological actions on the body, the magnitude of the subject will be partially seen. Practically, from this we may realize some of the many causes which result in inebriety. The only wonder is that the effects of alcohol are not more pronounced and fatal in each case. In the second factor are conditions of degeneration, either inherited or acquired, present before alcohol is used, which develop into inebriety or produce conditions of exhaustion for which alcohol is used to give relief. The active causation of inebriety, from inheritance, appears in either a direct or indirect form. In the former it follows directly from father to son, or from family to family, and is manifest in childhood by a perverted brain and nerve force, and disturbed functional activities. In the latter it is often more remotely inherited, as from the second generation back, and breaks out from the application of some peculiar exciting cause. Next to inheritance, directly from inebriate ancestors, are degenerative conditions of the organism following all the various forms of insanity and epilepsy: and consumption and many of the nervous diseases, followed by intense exhaustion: all these transmit a diathesis to the next generation, which often appears in inebriety. Another series of causes will be found in the bad and imperfect nutrition of childhood. This period of life, between four and fifteen years of age, is often the starting point of inebriety. The natural degenerations, from both quality, quantity and irregularities of food, also over-stimulation of the brain and nervous

system, break out in inebriety in manhood. Again, climate, occupation, education and surroundings are active causes which enter into many cases, modifying and changing the progress materially. All these factors are more or less present, and enter into the causation of nearly all cases of inebriety. Up to this time few studies have been made in this direction, and the general term of "vice" has been given to every obscure condition of inebriety. Inebriety not only appears as a result of perversions and degeneration of the brain and nervous system, following the direct use of alcohol, but it is often a symptom, and follows other diseases as a hint of degeneration in certain cortical brain centers, notably in general paresis, epilepsy, tumors of the brain and reflex irritations, dementia, melancholia, etc. Inebriety not unfrequently merges into acute mania and other diseases which pass rapidly to a fatal termination. The range of causes in inebriety is very complex, involving many conditions that require careful study from a scientific standpoint.

The special question of treatment resolves itself into two general facts: First, the special appliances and methods of treatment which are indicated by the present study of inebriety, as successful in the cure of these cases; second, preventive measures and hygienic means that will lessen the number of persons who suffer from inebriety.

First, no matter what the real cause may be, we must recognize the presence of alcohol and remove it: for the practical fact is, that the use of this drug in toxic doses, or continuously, causes tissue degeneration and starvation, and this interferes with the process of absorption and elimination, thus breaking up all chemical changes in the body. This may go on for a long time and without marked evidence of the real condition. If the patient cannot be treated at home successfully, he must be removed to some asylum or hospital, or properly quarantined, until positive seclusion from this cause can be obtained. Alcohol always masks and covers the real condition of the patient, and its redrawing reveals the long train of causes that enter into the formation of the case, permitting more exact studies into the nature of the disorder. No case can be treated unless absolutely removed from alcohol. This can be most effectually done in a special hospital for this purpose, where legal restraint can be combined with surroundings to make it difficult to procure spirits. After the removal of alcohol, the sanitary surroundings of the patient demand attention. From whatever circle of life or social condition he may come, there will be found a general neglect of healthy habits of living and exercise. All regularity of work and proper care of the body is essential for the healthy activity of both mind and body. If this cannot be done elsewhere it must be in special hospitals, conducted in the most methodical and hygienic manner. Not only the location, but the building, must afford every facility to bring the best conditions of health. It may be large or small, situated either in the country or

suburbs of city, but it must combine seclusion from alcohol and the best sanitary conditions for restoration. Residence in such a place must be positive and exact, and not depend on the feeble will and impulse of the patient. The duration of this residence should depend on circumstances and the history of the case. The legal principle which should apply in these cases is that whenever any person by the excessive use of alcohol, not only injures himself, destroying his property, but perils the rights of others, and the good order and harmony of society: he should be restrained and forced to adopt such measures as will lead to a speedy recovery. He is for the time substantially irresponsible and incapable of exercising full liberty of choice, and should be treated the same as a case of smallpox, or a suicidal mania. If he will not go voluntarily into the special surroundings necessary for health, it is the duty of his friends and society to force him to do so. The question is not of the degree of responsibility, or capacity for self-restraint, or of the moral state of the patient's mind: but the immediate means to meet the demands of the case. On the same principle that the surgeon when called to treat a fracture having first ascertained the kind of injury, uses the exact appliances to meet the case without regard to other causes which may have been present. In special hospitals the study of inebriety can be conducted with much accuracy, and all the many symptoms which distinguish it as a disease can be pointed out, and their proper treatment more positively ascertained. The application of the principle of rest in the treatment so essential, can be more thoroughly carried out here where all the surroundings are under the control of the physician. Nervous exhaustion is more or less present in all cases. The application of rest to both mind and body requires a nice adjustment of means and remedies based on an accurate study of the wants and history of the case. For instance, a patient accustomed to active brain labor, needs a different kind of rest from the gross, lethargic case that has but little mental exercise. The one gets rest from diversity, the other from quiet and regularity. The treatment by rest enters into all the conditions of functional and mental living. The inebriate hospital should be a rest cure in its broadest scientific sense. Turkish and electric baths are undoubtedly the most valuable medical means to rouse up the diseased organism: they seem to have a marked power over the vaso-motor paralysis, and increase the eliminating process of the skin, etc. Electricity and bitter barks, also arsenic and strychnia, are of great value in certain cases, while the bromide chloral and other depressants should be given guardedly, and not without positive indications of their necessity. The common practice of treating patients at home by such chemical restraints as may be obtained from chloral, bromides, opium and other drugs of this class is dangerous and always prolongs the duration of the disease, increasing the organic degeneration, and making recovery more difficult. In two cases which came under my care, one for chloral and the other

opium inebriety, the origin was evidently from the use of these drugs to relieve the effects of excess in the use of alcohol. The use of such narcotic drugs in inebriety should be contra-indicated, as a rule, from the natural tendency of this disorder to merge into diseased cravings for these substances. A physician, whose son had been under treatment at Binghampton Asylum for dipsomania, and had relapsed after being discharged, commenced active treatment by chemical restraint at home when the attack came on. By profoundly narcotizing the patient on the appearance of the attack, and keeping it up until the paroxysm was over, he was prevented from using alcohol. The physician was delighted and rushed into print in an article to show that inebriety could be successfully treated at home by these agents. Two years after his son was sent to an insane asylum demented and idiotic, and the history indicated clearly that bromide of potassium and chloral were the active causes.

The inebriate, though appearing to be in possession of a sound mind, will always be found on the other side of that mysterious border-line of mental health. The ego is always very active, and delusions of strength and capacity to endure and recover are present to the last moment of existence.

The inebriate, in the lowest chronic stages with the adverse experience of twenty years, will talk and act confident in his ability to stop the use of alcohol absolutely at his pleasure. Alcohol seems to act on some cerebral centers of the brain, causing what is variously termed moral paralysis and degeneration. Marked first by false reasoning on matters of right and wrong, and timidity of character. Then a general progressive degeneration of all the higher elements of manhood, also confused efforts to conceal his motives and character behind a mask of deception and intrigue. Prevarication, want of veracity, slandering, and decline of pride with impulsive selfishness alternating with unbounded benevolence, may be noticed in every case. These mental symptoms rarely attract attention until the case has become chronic, and even then are observed only by his most intimate friends. In all these cases the mind needs treatment as well as the body. An asylum that will provide immunity from alcohol with good surroundings and rest, must bring mental appliances that will reach these obscure physical conditions. Of these restraint is important, not the bars of a prison or the control of an insane asylum, but the combination of the two applied at times with military exactness, and alternated with freedom. Each case should be governed by conditions and circumstances which depend on the history and causes. Often restraint is injurious and the direct cause of mental irritation that may bring on a relapse; again it is a powerful stimulus rousing up the feeble will and debilitated organism into a healthy activity. It may be termed either an irritating depressant or a stimulating tonic and its proper application of this means is a valuable remedy.

Continuous restraint and unlimited freedom are both contra-indicated from a clinical study and the wise application of each is found to be absolutely essential in the treatment of such cases. This is a means of treatment which should be used with the same discretion and judgment as medicines. In the practical application of the treatment of these cases in an asylum, three distinct classes will be found.

The first class is probably most prominent of all others, and are found to be mentally defective by inheritance. They have an exceedingly low sense of duty and conceptions of right and wrong. Very frequently they display distinct criminal tendencies, associated with weak will and low passionate impulses. As inebriates they need sharp active discipline and exact military surroundings, regulating every duty and act of life. This, continued for a long time in an asylum with medical treatment, gives much promise of permanent cure. After two or more years in an asylum, if they can be placed in some position removed from all general temptation, and actively employed for a long time, their restoration is assured.

For a long time these cases have been regarded as types of all inebriates, when, literally, they are simply strongly marked cases of defective brain and nerve force, alternately criminals, insane and inebriates, from accident and circumstance. They are freighted with a peculiar diathesis, which breaks out into either criminality, insanity, inebriety or trampism, or one or more together, depending upon circumstances, and are always more or less incurable. Superintendents of insane asylums and judges have based their conclusions of inebriety from observations of this class. In the insane asylums they are the most troublesome of all cases. In the courts they are the repeaters that are sent to jail regularly for intoxication; and in all circles they are the pests of society, continually drinking, committing petty crime and outraging society by all kinds of excess. In inebriate asylums they abuse all the privileges and bring every effort to help them into discredit. Injuring the other patients and continually keeping up an atmosphere of insubordination and irregularity. When discharged, are full of slanderous stories about the asylum, and stand around the corners of streets advertising the failure of the institution to effect a cure in themselves.

This class of inebriates is universally misunderstood, and never studied clinically; yet they will be found to have a distinct cause, development, symptomatology and termination. Nothing is more erroneous than the very common expression of the incurability of inebriety, based on empiric efforts to cure the criminal or insane inebriate by means that are not only inadequate, but unfounded on any knowledge of the nature of the disorder. Deductions as to what inebriety is, and how it may be treated, founded on a limited observation of such cases, which are always exaggerated types, are grave errors.

The second class of inebriates who come for treatment, are less prom-

inent and are the victims of circumstances, and some accidental causes not understood. They come from the middle classes and represent the hard-working, active brain-labor of the country. Heredity is always more or less obscure, and usually the history of nervous and constitutional disease is not in the direct line of inebriety, but in some collateral branch. They are particularly noticeable from the prominence of delusions of strength to stop all use of spirits at their pleasure. But they never do, notwithstanding all their past failures, insist with earnestness that they have the full power and capacity to recover. In these cases there are general conditions of ill-health present, such as general exhaustion, anemia, neuralgia, and functional disorder of the heart and stomach. Injuries of the brain and spinal cord, profound shocks from both mental and physical causes, sunstroke and exhausting diseases can be often traced as the active causes in many cases. This class will be found to represent an average physical and mental capacity, with, not unfrequently, great activity and ambition to attain either wealth or distinction in life. From various circumstances, depending on ill-health, irregularities of living, bad surroundings, overwork, mental worry, and many other causes, the use of alcohol commences as a temporary relief and culminates in a toxic condition of intoxication. From this time pathological changes begin, and alcohol is demanded ever after. After a period of constant use of alcohol, they frequently merge into periodical inebriates, with a free interval of more or less uncertain length. Many of these persons are strong temperance workers in the free intervals, and appear to be in good health and in full possession of their will power. To their friends they are enigmas and seem to be under control of an evil spirit, and are never able to understand why or when they will drink. These are literally very hopeful cases, even in the chronic stages, and when they remain a long time in the asylum recover. I think that a very large per cent. of these cases can be permanently cured. They need, most of all things, seclusion from alcohol and physical rest, also change of life and activities, with long-continued hygienic and medical treatment to build up the system. These are the cases which get well all unexpectedly; from no special means other than the will to do so. They are often the shining examples of prayer meetings and temperance societies, and seem to relapse and recover in the most mysterious, uncertain manner. In the asylum, in the treatment of these cases, great care is necessary in the matter of restraint and effort to keep the mind occupied all the time. Each case demands special conditions and methods of treatment, which shall educate the patient's mind and teach him to observe the utmost regularity in all habits and duties of life. After treatment in an asylum, such cases need a change of labor and living, also freedom from excitement or long-continued exhausting work. If the mind can be kept active and buoyant, the vigor of the body is sustained. Such

cases cannot be treated at home, under any circumstances, but must have both change of life and surroundings.

A third class of inebriates differing from both of the others mentioned and equally prominent are always seen in the asylum. They are noted for the exhibitions of great extremes of strength and weakness. The patient will stop the use of alcohol at home suddenly and under the most diverse conditions come to the asylum, either alone or with his friends, and give strong evidence of great earnestness and honesty of purpose. On the way to the asylum he will pass through great temptations and never touch spirits: but in one hour after arrival, he will plan and execute the most cunning schemes to get spirits. He will exhibit at times a kind of a malicious mania for alcohol, and then be bowed down with the greatest contrition and sorrow and do all that is possible to repair the injury. Unlike the class last mentioned, there will be found a certain method in both his relapses and recoveries, that to many seem exceedingly suspicious. This class always inherit an uncertain nerve and brain condition from intellectual hard brain workers. Politicians, lawyers, editors, brokers, railroad men and over-worked clergymen contribute the largest number of descendants to this class. They usually possess a degree of talent that borders on genius or madness, and seem to have no fixed purpose in anything. They often come from wealthy, luxurious surroundings, suffering in childhood from bad food and no training and general imperfect physical growth, nervous excitement in early life, wine on the table, surfeit of food and many other causes which break up natural healthy growth. I have traced the early causes of many of these cases to nervous shock and exhaustion at puberty from the first sexual act. A condition of feeble reaction from any kind of exhaustion is always present, and wine and spirits are used to counteract this effect. They are always filled with the delusion that the moderate use of alcohol is a normal, healthy state and all their ideals of life center on this condition. In the early stages they are constant drinkers, but later when they are debilitated, are impulsive, irregular inebriates. In some cases a wonderful power of self-control is seen, which seems to be of the nature of paralysis, by which the patient will unexpectedly stop all use of alcohol and go about in the worst conditions of temptations for a long time; and the only explanation which he gives is, that he has made up his mind to drink no more. A remarkable example of this was seen in the history of Judge Raymond. When thirty he was a confirmed inebriate, and given up by his friends. All unexpectedly he resolved not to use alcohol again until he was seventy years old. From this time on he was a strict temperance man, and finally became a judge, and he was a very eminent and exemplary man. On the morning of his seventieth birthday he became very much intoxicated, and died two years later of delirium tremens, having drank in the meantime almost constantly. These cases are frequently marked in the later stages by delusions of

suspicious of injustice from their nearest friends. Extreme degrees of mental and physical exhaustion characterize the case in its later stage. In treatment, the necessity for absolute quiet and rest, with extreme regularity of surroundings and varied restraint are apparent. This class are for a long time irritable and fault-finding, but seldom are unmanageable. They enter heartily into all plans of treatment for themselves, and although they will sympathize with and plan to get alcohol for the newly arrived patient, yet never touch any themselves. They are often very emotional and deeply religious, and recover readily in ordinary asylum treatment, but seem to be influenced by circumstances and health more than the other classes. Their ultimate recovery depends on complex conditions, which are largely unknown, and are always questions which the intimate study of each case will determine. In this class I have seen less complicating diseases, and been able to trace a range of connected symptoms from the beginning to the end in many instances. The study and successful treatment of these cases can only be assured in well ordered asylums. In this very general description of three classes of inebriates, which appear in every study of this subject, the varied complexity of the causes requiring special means are apparent. No question of treatment or means to lessen the number of inebriates can be determined, except from a clinical study. Inebriety is curable to a large degree, and if taken in the early stages recovery would be the rule, and failure the exception. Even now many chronic cases, under diverse circumstances, recover permanently, and nearly all are largely benefited by asylum restraint and medical care. Inebriety will be no mystery when we shall understand its nature and causes, and its treatment will be no doubtful matter when we can classify and treat each case according to its special demands. We have indicated that inebriety can be reached most successfully:

1. By isolating the patient in a special home or hospital, where all his surroundings can be under the care and control of a physician.

2. Here a special study of the case will reveal the minute chain of causes which have increased or directly brought on the disorder.

3. From this study will be marked out the particular treatment essential to the cure in each case. The second general fact covers all those preventive measures and hygienic means that will lessen the numbers of persons who suffer from inebriety.

CLINICAL REPORT.

A CASE OF RAYNAUD'S DISEASE TREATED BY THE RUBBER TOURNIQUET.

By SIDNEY I. SCHWAB, M. D., of St. Louis.

In the November number of the *Journal of Nervous and Mental Disease* appeared a paper by Cushing, of Baltimore, on the treatment of the vaso-motor spasm in Raynaud's disease, by means of a rubber bandage applied above the region of vaso-motor spasm in the extremity affected. This method was based upon the assumption that there was in the disease a physiological overaction of the neuro-vascular apparatus. The active hyperæmia, with increased surface temperature, presumably is due to the temporary paralysis of vaso-motor control below the encircling bandage. The experience derived from the application of such bandages in surgical practice seemed to justify, on theoretical grounds at any rate, the use of the same procedure in this class of cases. The therapeutic result in the case of Cushing's was so pronounced that there could be no question of the correctness of the procedure. The following case is an illustration of the efficacy of this method of treatment:

Case.—Mrs. M., forty-eight years old, was sent to me by a dermatologist of this city to corroborate the diagnosis of Raynaud's disease which he had made in the case. This was the patient's first attack which had lasted with intermissions for about six months. About that time she noticed that the first finger of the right hand became white, then blue and cold. There was a good deal of pain in the fingers during the attacks. For the pain the patient could find no relief. Soon after ulcerations appeared at the terminals of the first two fingers. These showed very little tendency to heal at first though they did so finally without leaving any deformities. Shortly afterwards the fingers of the left hand underwent the same changes. The condition presented at the first examination was that of a typical Raynaud's. The terminal phalanges of the first and index fingers of the left hand were the seat of painful ulcerations with gangrenous edges. The nails were apparently undergoing trophic changes. They lay very loosely in the matrices. The pain was almost constant and severe. The other fingers of this hand were cyanosed and cold to the touch. The pain radiated up the arm and was neuralgic in type and more severe on the extensor surface. Physical examination was absolutely negative except for the changes just described. There was nothing in the past history of the patient which threw any light upon the present condition. There was no family his-

tory of any similar affection. The urine was normal, with a specific gravity of 1034.

A rubber bandage three inches wide was directed to be applied three times a day above the area of vaso-motor spasm. The bandage was left in position about ten minutes. In addition adrenalin was given on the chance that there might be a lowered arterial tension that would be a factor in the vaso-motor disturbance. In Cushing's case there was found no rise of arterial tension during the application of the bandage. It is very probable that this factor plays no important role in the disease. The relief from pain was almost instantaneous, and in a few days the gangrenous extremities of the fingers began to disappear. Two months after the treatment was begun the fingers were altogether healed, the pain had disappeared and the condition of the patient had improved in every way. The fingers then presented no deformity or scars. They still, however, felt damp to the touch and became bluish in color, on a dependent position. The result in this case then shows the same relief of symptoms as in the case of Cushing's and though in this case and in his the Raynaud's is not cured, yet there is at hand by the method here described a ready means of relief of the most annoying symptoms of the disease.

EDITORIAL COMMENT.

THE NECESSITY OF NEW LUNACY LEGISLATION.

In the last number of the *American Journal of Insanity* there is a description of a case of unusual interest in which the medico-legal aspect is clearly brought out by the author, Henry R. Stedman, of Boston. In consequence of the discussion of this case the Boston Society of Psychiatry and Neurology appointed a committee to offer to the legislature of the state this new statute. It was speedily passed. It is as follows: "If a person under indictment for any crime is, at the time appointed for trial, or at any time prior thereto, found by the court to be insane, or is found by two experts in insanity, designated by the court, to be in such mental condition that his committal to an insane hospital is necessary or for the proper observation of such person, pending the determination of his insanity, the court may cause him to be committed to a state insane hospital for such time and under such limitations as the court may order." This represents an advance in criminal procedure which other less fortunate communities may well envy. The state of things in this community, not only in relation to the criminal side, but in that of insanity in general, may be considered with the purpose of bringing before the readers of this journal where the reforms are most needed. In this city and in this state there is no lunacy commission and no body which, by selection or intent, performs its function. There is no state or city control of private institutions for the treatment of the insane, and there is no record of how this trust is administered. There are three ways of commitment to an insane hospital in this state, all of which are antiquated and likely to be abused. First, unsoundness of mind can be established before the probate court as the result of the testimony of one physician, who may or may not be one whose opinion has any particular weight on the subject of insanity. Most often he is the family physician. The jury before whom the testimony is given is rather less intelligent than the usual criminal juries, and receives with reverence the verdict of an expert in a recent case, given with ponderous gravity as follows: "The patient is, in my judgment, mad with insanity." A verdict of insanity thus given establishes the patient's unsoundness of mind, and, if poor, he goes to the city asylum. Second, through observation at the city hospital for a certain period of time. The opinion in this instance is in no sense expert, and is generally not even well informed. It is to be observed here that there is no regular visiting alienist or neurologist, through whom intelligent observation of doubtful cases might be obtained. Third, commitment to private institutions in

or near the city can be brought about with even less ceremony. A purely formal letter of the physician is all that is necessary, and even that in certain cases is not essential. For expert opinion in medico-legal cases there is absolutely no provision. A paranoia may be tried, convicted and executed for murder, for instance, and no question as to his sanity be raised except upon the instance of his attorney, if he desires to make the usual plea in extenuation. A criminal thus condemned remains in jail, and if there is any examination made at all it is purely perfunctory, and of all places in the world a jail is the worst possible one in which to observe an individual with such a question at issue. This statement of well-known facts is sufficient to show the utter antiquity and the possible injustice and cruelty of such a system.

INTERNATIONAL CONGRESS OF ARTS AND SCIENCE—UNIVERSAL
EXPOSITION, ST. LOUIS, SEPTEMBER 19-25, 1904.

When a World's Fair is over, when the lights are turned out on the last night never to be relighted, when the beautiful architectural creations are pulled down, one naturally asks with a tinge of sadness, What has it all amounted to? Of course, there has been a temporary commercial advantage gained and many people have had a good time, but what of permanent good has all the trouble and energy expended produced?

These questions have naturally arisen in the minds of thinkers since the exposition idea began to develop, and as an answer to them we now have placed before us a plan for holding a congress of men of science and letters which is almost as stupendous as the conception of a universal exposition itself.

The central purpose of this congress is the unification of knowledge. To accomplish this men of prominence throughout the world are to be brought together under one roof, as it were, and are to give their fundamental conceptions and methods and set forth the progress made in the last century. When we stop to consider the breadth of science and the almost infinite division of the whole into special fields of research, we almost breathlessly ask how the thing may be accomplished. It is all arranged, however, and the scheme is simplicity itself. In the first place, the whole field is divided into seven grand divisions, these seven are subdivided into twenty-four departments, and these twenty-four are again subdivided into one hundred and twenty-eight sections. Let us explain the workings of this plan by taking that department of science which more directly interests us—*i. e.*, medicine, and using this as a guide the simplicity will become evident.

Division E constitutes the "Utilitarian Sciences" and includes Medicine, Technology and Economics. Medicine, which is the first of these, is called *Department 17*. The chairman of this department is Dr. Wil-

liam Osler, and the speakers are William T. Councilman and Frank Billings. Department 17 is divided into twelve sections, each section has a chairman and two speakers. For instance, section 10, Preventive Medicine, has for speakers Professor Ronald Ross, F. R. S., School of Tropical Medicine University College, Liverpool, and Professor Angelo Celli, University of Rome. To go through the several special departments of medicine given and to name the speakers and chairmen would only be to call the role of men who stand first in their work.

How are these men to be heard? The congress opens on Monday afternoon, September 19th. The next morning at the places decided upon addresses will be given in the seven main divisions. Breaking up then into departments, two addresses will be given to each of the twenty-four departments. On the third day the work in sections will begin and about 128 sectional meetings will be held each day for the remaining four days of the congress. Religion, law, chemistry, politics, etc., etc.; in fact, all knowledge will be thoroughly discussed, and the addresses and discussions are to be collected and published in special volumes.

The transient joys of a "midway" or of a "pike," the specially designed sensations of a "Ferris wheel" or a "scenic railway," to say nothing of those stimulated in certain "oriental streets" do not make up everything that a great exposition may hand along to memory. The work has all been done for us and we, as physicians, who should be investigators and scholars, ought to take up the advantage and derive all the profit and inspiration that such a grand general survey of the fields of learning must of necessity give.

MEETING OF THE AMERICAN NEUROLOGICAL ASSOCIATION.

The American Neurological Association meets in St. Louis on Thursday, Friday and Saturday, September 15, 16 and 17, 1904. The sessions will be held in the ladies' parlor of the Planters' Hotel. The indications are that there will be a good attendance of the members. The program is very attractive, including titles from some of the most distinguished neurologists in the country. The profession is cordially invited to attend.

On Saturday evening, the 17th, the St. Louis Medical Society of Missouri, at its regular meeting place in the Board of Education building, will present a special program in which the leading features will be contributed by gentlemen eminent in neurological circles. This promises to be an enjoyable meeting and there will probably be a large attendance.

HUMAN AND BOVINE TUBERCULOSIS.

The intense excitement that has reigned during the last year in the discussions on certain conceptions of tuberculosis, has gradually subsided and given place to a more sober and quiet consideration and investigation of the factors concerned. This obtains especially in the discussion of Koch's thesis of the difference between human and bovine tuberculosis.

Up to one year ago from the study of the literature the reader was liable and almost bound to conclude that this thesis had finally received its death blow, but slowly and with convincing strength its truth has been revealed. In almost all hostile quarters there is observed a gradual withdrawal of general denials. The transmission of the one causative agent to the host of the other is more and more acknowledged to be the exception. Although the investigations of Kossel and others have been twisted and meddled with until they appeared to demonstrate the opposite of what they intended to show, their innate truth has forced itself at the present fully on the mind of many critics. The conception itself that was given to Koch's thesis and its meaning, was in many ways unclear and misunderstood. The discussion about the identity of the bacilli could never have arisen if Koch had not been dealt with as a tiro in the study of pathogenic organisms, instead of as the master whose knowledge is taken by all who really know his work, as based on the most thorough investigations and studies ever made in these branches of science. There is no doubt that bovine tuberculosis can be transmitted to man, and *vice versa*, and Koch has never denied this possibility; all he wanted to do was to establish the rarity of this occurrence, and with all his weight and authority to lay stress on the fight against the human bacillus.

That theoretically Koch's opinion is correct is proven by the work of his direct antagonist in this question, by Behring, through the successful immunization of cattle by means of human bacilli. Koch never said that the two bacilli were not identical; he, their discoverer, could not say it, but his researches had shown him that between the two there existed some of those biologic differences that we may call racial, or functional, or whatsoever, that in the sense of natural and general biologic science do not constitute a reason to separate two otherwise identical organisms into different species or subspecies, etc. What Koch intended to impress for tubercle bacilli, was something that was a long since entertained general conception for many other bacteria and other microbes (anthrax, vaccinia, &c). That Koch is correct and that in many respects the two forms of bacilli behave differently, nowadays everybody admits. The conclusions he has drawn from these facts, as well as an astoundingly comprehensive, extensive and valuable account of clinical and other

factors, cannot be done away with by single isolated experiments and observations.

In this connection a late communication from Japan is of the utmost value and convincingly demonstrative, in which Kanda and Shiga discuss the origin of bovine tuberculosis and human tuberculosis in their country. Japan, before her contact with European nations, had the average rate of tuberculosis in its population that other nations have; bovine tuberculosis was unknown. Up to thirty years ago very few cattle were raised in Japan and the use of cow's milk and of beef did not exist. With the introduction of American cattle the bovine disease and the use of bovine products became disseminated, but the rate of human tuberculosis remained the same. It is to be noted also, that even today in Japan cow's milk is only in exceptional cases used for feeding infants, but that the rate of tuberculosis in children is nevertheless rather higher there than in many European countries. A better proof of the little influence that bovine tuberculosis has on the percentage of human tuberculosis cannot be found.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

A New Principle for the Determination of the Boundaries of the Stomach.—NEWMAN (*Wiener Klinische Wochenschrift*, No. 24, 1904), describes a method which he considers a new and simple procedure for determining the size and position of the stomach.

A Pollitzer bag is attached to the stomach, as is ordinarily done in inflation of the stomach; air is slowly pumped into the stomach and the sounds thus produced are noted with a stethoscope. As the air rushes into the stomach a very characteristic sound is produced and is heard distinctly over the stomach only. By moving the stethoscope from point to point while pumping air into the stomach, the exact outline of the stomach may be noted. The advantage claimed for this method is that the boundaries of the stomach may be determined without distending it greatly.

The Influence of Endofaradization and Endogalvanization of the Stomach on Secretion Motility and Sensation.—BORRI (*Berliner Klinische Wochenschrift*, No. 26, 1904), reviews the literature on intragastric galvanization and faradization and its effects, and adds the results of his own observations carefully carried out on a series of cases. He finds that neither of the currents is of any therapeutic value so far as secretion and motility are concerned. The results are quite remarkable, however, as to sensibility when the galvanic current is employed.

The Serum Treatment of Acute and Chronic Articular Rheumatism.—MENZER (*Muenchener Medicinische Wochenschrift*, August 16, 1904), basing his conclusions upon a series of personal observations, states that it is possible to cure or improve the condition of cases of chronic articular rheumatism by means of the serum.

Acute articular rheumatism is greatly benefited thereby, and the chances for the cure of endocarditis are greatly improved.

It seems to have a great advantage over the other methods of treatment, in that the tendency to relapse is decidedly lessened. The application of the serum often causes chronic inflammatory lesions to undergo acute inflammatory changes. It is possible, therefore, in pericarditis and pleuritis with effusion to produce serious complications through increasing the inflammatory process. The same would be true in a case of valvular stenosis, due to chronic endocarditis.

Inasmuch as the serum causes febrile reaction, it is not well to employ it in the very weak, emaciated cases of chronic articular rheumatism.

The Significance of Leucocytosis in the Diagnosis of Purulent Conditions Within the Abdomen.—TURKEL (*Centralblatt fuer die Grenzgebiete der Medizin und Chirurgie*, August 5, 1904), presents a most thorough review of all the literature up to date on the above subject. He has collected and tabulated some seventy literature references.

While he attributes to leucocytosis a diagnostic significance, he lays great stress upon the care with which the determination is made and the conditions. Concurrent causes of leucocytosis must be excluded.

Repeated counts should be made in every case.

Only the large leucocyte counts (20 to 25000) should indicate involvement of the peritoneum. The negative findings have little or no significance.

Disinfection of the Bile-Ducts and Internal Antisepsis.—KÜHN (*Muenchener Medizinische Wochenschrift*, August 16, 1904), endeavors to determine through a series of formulation tests what drugs are excreted in the bile, and in what form they are excreted. There have been isolated from the bile, bilirubin, urobilin, acid salts, hemaglobin, arsenic, iron, mercury, fuchsin, turpentine, salicylic acid, sodium salicylate, iodide of potassium, bromide of potassium, ichthyol, formaldehyde, etc., sublimate, carbolic acid, etc., cannot be considered in connection with the biliary ducts because of their great toxicity.

Others cannot be used because they are not excreted in the bile, or are excreted in some form which is inert. Naphthol and methylene blue, for instance, are excreted in such small quantities, and in such a form, as to be inactive. Saccharin and ichthyol pass through in small quantities, but have been found practically useless in this connection.

Thymol, menthol and the salicyl group seem to offer the greatest possibilities. Salicylic acid and its salts were found to exert a marked influence over the fermentation of the bile and are, therefore, the best drugs for internal use in inflammatory processes in the biliary ducts.

Acute Cholecystitis Simulating Appendicitis—Two Illustrative Cases.—CHUTE (*Medical Record*, August 13, 1904).—There is not infrequently a great similarity between the picture of acute cholecystitis and that of acute appendicitis. It is much more common for acute cholecystitis to be mistaken for appendicitis than the reverse. The correct diagnosis can usually be made by careful palpation after the patient is etherized. In a few cases the correct diagnosis cannot be made before the abdomen is opened; this occurs most often in the cases in which there is an appendix abscess in the region of the liver, or an inflamed adherent gall-bladder in the appendix region. An additional complication in the diagnosis of these cases is the fact that both cholecystitis and appendicitis, may occasionally occur at the same time. Cases have been reported in which both diseases were in an acute stage; this is very unusual. The combination of an acute cholecystitis with a chronic appendicitis is not very uncommon; the reversed condition has been reported less frequently. In dealing with supposed cases of either of those two most common intra-abdominal inflammations, one should always bear in mind the closeness with which they may simulate each other. When at operation the state of the organ investigated does not satisfactorily account

for the patient's condition, the other organ should always be examined. The author lays great stress upon distention of the abdomen and a disproportionately slow pulse, as pointing to gall bladder involvement, rather than appendicitis. He reports two cases in which the symptoms pointed closely to appendicitis and in both cholecystitis, with cholelithiasis was found.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

The Treatment of Excessively Large Herniæ.—MADELUNG (*Archiv. fuer Klinische Chirurgie*. Bd. lxxiv. Hft. 1).—The class of herniæ to which reference is made includes those which cannot be replaced by operation or otherwise, and those alone. This is not due to size alone, but to adhesions and other factors as well. Not infrequently these lesions are seen following "radical" operations which failed to cure, and then the condition is as bad as can be imagined. It is easy to relieve one of these patients when the functions of the intestine are not disturbed, by simply applying a suspensory which will relieve him of the extra weight in the scrotum. Urination is greatly helped by inserting a tube into the depression, which usually leads up to the retracted head of the penis, and especial arrangements often can be made for defecation, whereby the skin of the scrotum may not be soiled. Spontaneous rupture of the scrotum, with consequent peritonitis is to be feared, as is ileus of one sort or another and gangrene of the intestine. And these occur much more frequently than one is commonly lead to suppose. If an operation is attempted it is well to keep the patient in bed for weeks beforehand, with the pelvis elevated and to try to reduce the amount of fat present. However, it may come to extensive gut or omental resection, while a possibility in the way of increasing the capacity of the abdomen would be to create a diaphragmatic hernia. The author has found that an artificial intestinal fistula is efficacious in relieving ileus, where no more radical operation is to be thought of.

Buried Metallic Ligatures and Sutures.—JEANNEL (*Archives Provinciales de Chirurgie*. Tome 13, No. 7).—This novel article deals in an exhaustive manner with a subject which has almost escaped the attention of latter-day surgeons. At the outset our author deals with the difficulties which accompany the use of sutures of the ordinary varieties, breakage, length of time wasted, difficulties of accomplishing and maintaining a sepsis, etc. He then takes up the question of trouble which might arise from leaving metal sutures and ligatures lying permanently in a wound, but demonstrates by his own extensive experience that this may be safely done. These little clips are made of nickel and can be applied with an instrument about as fast as bleeding points can be clamped. Almost any vessel, whether isolated or not, seems to be amenable to this sort of treatment. M. Jeannel has done 103 operations while using metal liga-

tures alone, with the highest degree of success; these comprising almost everything in the range of surgery. He has seen the clasps extruded in but nine cases, and in every one of these there was an infection which accounted for the accident. He is more than delighted with the results obtained, and considers this question settled as far as it can be until such a clasp as he describes has been made of absorbable metal.

The Surgery of the Biliary Tract.—RICHARDSON (*Journal of the American Medical Association*, September 3, 1904).—The author's prominent connection with the work and literature of this subject makes an article from his pen a matter of more than usual interest. The most important one thing to be considered in the treatment of all affections of the biliary passages and the gall-bladder is drainage. But fistulae and herniæ must not be left behind in order to accomplish drainage; how to secure the desirable end mentioned without exposing the patient to the danger of the other two, may be said to be the subject of Richardson's paper. At the same time he mentions some interesting cases in which he discovered stones during the progress of other abdominal operations, and he deals with the subject of removing stones which cause no symptoms as yet. The author's view seems to be that all stones which are known to exist should be removed before they cause trouble, for then an element of uncertainty is removed; the operation is not dangerous, and no one can tell what may happen if they are left alone. Drainage is necessary in almost all cases, and a recurrence of stone formation after this has been properly accomplished, is almost unknown. Richardson is not enthusiastic over the removal of the gall-bladder as a routine practice; in fact, he goes farther in limiting the indications for this procedure than do most modern surgeons of his experience. Hernia in the scar is to be prevented by some form of muscle splitting operation, while a permanent fistula means blocking of the common duct, usually by a stone.

The Technique of Nephropexy.—HOFMANN (*Beiträge zur Klinische Chirurgie*, Band xlii, Heft 3).—The fact that there are so many different varieties of operation proposed for the relief of this condition is proof positive that none of them are of surpassing merit, hence the author feels at liberty to propose one more. His idea, which is a most simple one, and, to say the least, founded upon good mechanical principles, is as follows: He turns back the fatty capsule, then brings the kidney as high as possible in front of the last rib; having ascertained the best point of contact between these last named structures, he treats the tunica propria in the following way: On the posterior surface of the organ an "H" shaped incision of the capsule is made, with the connecting bar extending longitudinal to the organ. The two little flaps thus formed are each rolled away from the other as far as possible, then through the little rolls thus formed two heavy silk threads are sewn and each tied finally around the last rib, the organ thus being drawn into good position and securely held there.

The Therapeutic Value of "Hepatic Drainage" After the Method of Kehr.—DELAGENIERE (*Bulletins et Mémoires de la Société de Chirurgie de Paris*, Tome xxx, No. 26).—The author is decidedly in favor of this procedure

of inserting a tube into the hepatic duct after certain operations upon the passages. His observations have led him to the following conclusions, viz., that the hepatic duct is always dilated whenever there is enough retention due to a stone's presence to cause enlargement of the liver. Then it can be said that hepatic drainage is indicated whenever the duct is dilated. A successful case is detailed, in which that method was employed. In his concluding remarks the author calls attention to the fact that it is always easiest to drain the duct in just those cases in which it is indicated. The efficiency of such drainage is best attested by the fact that no bile stains the stools where it is employed.

Peptic Ulcer of the Jejunum.—ROBSON (*Annals of Surgery*, August, 1904).—Communications from the pen of this distinguished abdominal surgeon are always read with interest; especially must this be true in the present instance, since he deals with a subject which is so rare that but sixteen instances of its kind have been recorded, this being the first one in Great Britain. Peptic ulcer may follow gastro-enterostomy, much less frequently after the posterior opening has been made, however. It has never been known to follow a pyloroplasty of the older type, though as much has not yet been proven for the Finney operation. In the sixteen cases which Robson found in the literature, an anterior operation had been performed in thirteen, a posterior operation in two and the "Y" operation in one. Certainly a strong point in favor of the posterior procedure as a routine practice.

The author reports a case in which this complication occurred nearly three and one-half years after an anterior operation; a resection was then made and the patient recovered.

The Open Treatment of Wounds After Transplantation.—BRUENING (*Zentralblatt fuer Chirurgie*, No. 30, 1904).—The author is very much in favor of treating these cases without any sort of dressing where possible, that is by allowing the free contact of the air in order that the exudata may dry at once.

It made no difference in his experience whether the wound was a fresh or a granulating one. Especially is it to be recommended where possible that the patient be allowed to lie on the operating table for a few hours after the transplantation without any sort of wound covering in order that the graft may become glued to its new bed. It may be necessary to apply some sort of protection at night if there is a tendency for the patient to injure the wound unconsciously by scratching or changing the position. In a week all grafts have healed on if they are ever going to do so. By this new treatment the old tendency to accumulation of exudata and masceration of grafts is counteracted.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

Rodagen in the Treatment of Graves' Disease.—WILLY KUHNEMANN (*Munch. med. Wochenschr.*, 1904, No. 10).—Rodagen, which has several times been referred to in these columns, is a preparation obtained from the milk of goats that have been deprived of their thyroid glands. In a case of exophthalmic goitre affecting a woman nineteen years old, Kuhnemann obtained an astonishingly good result by the administration of this drug. Beginning with the 1st of October the patient received 2 grams of rodagen three times daily. The first effect was an immediate gain in weight. On October 6th she weighed 97 pounds; on the 10th, 98 pounds; on the 17th, 101 pounds, and on November 7th, 109 pounds. The thyroid, too, became smaller. At the beginning of the treatment the circumference of the neck measured 35½ cm., on November 3d only 34 cm. The cardiac palpitation and the exophthalmus decreased markedly. She slept much better, and had lost all trace of tremor. In short, all the cardinal symptoms of the disease (tachycardia, struma, exophthalmus, tremor) had shown marked improvement as the result of five or six weeks' treatment with rodagen. In addition, the usual therapeutic procedures (cold sponges, vigorous feeding, cold applications to the precordial region, rest, arsenic in the form of injections of a 10 per cent. solution of sodium cacodylate) had not been neglected. In order to ascertain what share in the patient's improvement was to be ascribed to the rodagen, the latter was discontinued while the rest of the treatment remained unchanged. Within a few days the pulse again rose from 106 to 120, and the patient's weight fell from 109 to 106 pounds. Accordingly rodagen was again administered, with the result that a further improvement in the patient's condition took place, which continued until her discharge.

While a report like the above may well lead to further clinical trials of this very interesting preparation, in spite of the fact that in many cases of Graves' disease it has been found of absolutely no avail, it must not be forgotten that the psychical element may well have played an essential part in the patient's rapid improvement as well as in her decline when the drug was discontinued. Moreover, we are given no information regarding the permanence of the improvement. Further observation is needed before the value or the uselessness of rodagen can be regarded as positively determined.

Concerning Alcohol Poultices.—WOHL (*Deutsche med. Wochenschr.*, 1904, No. 7) —Since alcohol poultices have not yet come into general use, Wohl feels himself impelled to give some account of the favorable results he has obtained with them in the abortion of beginning suppuration. The action of alcohol, which penetrates into the deeper layers of the skin, depends on an irritation of the tissues lying beneath the dressing, which results in a great local leucocytosis and hyperemia. Wohl

recommends the following procedure: Gauze soaked in 90 to 95 per cent. alcohol is applied to the area of inflammation and covered with a layer of waterproof tissue. It should be renewed at least every twenty-four hours, and in severe cases every twelve hours. Such dressings will abort a beginning suppurative process and, moreover, have a distinctly anodyne effect.

Additional Experiences in the Treatment of the Pernicious Anemias.—E. GRAWITZ (*Deutsche med. Wochenschr.*, 1904, Nos. 30 and 31).—The term "pernicious anemia" has long been used by clinicians in a very vague manner. One reason for this has been the relative infrequency of the disease; another has been the fact that many well-known pathological conditions (such as cancer, chronic suppuration and malaria) may produce histological changes in the blood identical with those caused by the anemias without demonstrable organic lesion or parasitic infection, which have always formed the bulk of the conditions classed together as the pernicious anemias.

Instead of defining this condition from the etiological point of view, the tendency hitherto has been to consider it as a pathologic-anatomic entity, and to throw together into one group all the various conditions that may produce the same histological change in the blood. This tendency, the leading champion of which is Ehrlich, has not, however, resulted in a clarifying of our conception of pernicious anemia. The reason for this, Grawitz holds, is clear. It is just as wrong to throw into one group all the conditions that may produce the blood-picture of pernicious anemia as to group together all the causes of albuminuria. The only hope of further advance in our knowledge of pernicious anemia lies in grouping the various causes of this condition from the etiological point of view. The bulk of the cases will then be found to be due to a destruction of the red cells by means of a toxemia, and, while in a few of these cases the poisons responsible for the condition are introduced from without, in most of them they are of intestinal origin.

A prerequisite for the production of the disease, to be sure, is a congenital delicacy of the red corpuscles, so that a toxemia which perhaps would hardly injure the average individual, produces a profound destruction of erythrocytes. But, given this diminished power of resistance, the essential cause of the disease is intestinal auto-intoxication. If this be true, the usual treatment of pernicious anemia (iron, arsenic, nutritious food, etc.) must fail of its purpose—as indeed it usually does—and only a thoroughgoing attempt at comparative intestinal sterilization can hope to succeed. Grawitz illustrates his contention by means of a number of interesting cases related with some detail. They can here be summarized in only the briefest manner.

Case 1.—Woman, thirty-eight years old; presented the typical physical and hematological picture of pernicious anemia. In addition, she had gastric anacidity and extremely carious teeth. As the latter might be expected to have caused excessive intestinal putrefaction, she was taken entirely off of proteid diet, and given only vegetables in mushy form. The necessary albumen was given per rectum. No drugs were given. When she left the hospital ten weeks later she was entirely well

and her blood practically normal. She remained free from relapse until her death, in the following year, of acute pyelonephritis.

Case 2.—Man, forty-eight years old; entered the hospital delirious with retinal hemorrhage, albuminuria, indicanuria, gastric anacidity, and the blood-picture of pernicious anemia. Daily gastric and colonic lavage, and the same diet as in Case 1, resulted in a rapid, complete and apparently permanent cure.

Bioferrin in the Anemia of Infants.—SIEGERT (*Munch. med. Wochenschr.*, July 5, 1904, p. 1,204).—It has been shown by Bunge that all infants, those at the breast as well as those fed artificially, must become anemic if, during the first year of their life, they receive in addition to their milk no substances richer in iron. This anemia is particularly marked in "bottle babies," and every case of rachitis is characterized by a very low per cent. of hemoglobin. The ordinary iron tonics are quite unsuited to this class of patients. Either they are offensive in taste and smell, or they are of a nature to upset the infant's digestion, or they contain harmful amounts of alcohol or ether. The hemoglobin preparations which avoid these disadvantages are always so rich in bacteria, for which they are an excellent culture medium, that they can not be considered harmless.

Prof. Cloetta, of Zurich, however, has (based upon extensive researches in the metabolism of iron) produced an organic iron compound which seems to have none of the above faults. It is free from ether and alcohol, not unpleasant to taste and smell, and practically sterile, only the hay-bacillus (*bacillus subtilis*) being found in pure culture. It is obtained from hemoglobin manipulated in such a way that it is believed the anti-bodies have not been destroyed. Kalle & Co., of Biebrich, have undertaken its manufacture and have put it upon the market under the name of "bioferrin." Prof. Siegert has used it upon a large number of rachitic and anemic infants, and has found it not only well taken and borne, but actively restorative of the reduced hemoglobin. The dose for infants is 5 grams once or twice daily; for older children, 10-15 grams; for adults, 15-30 grams daily. It may be taken diluted with cold or warm milk or water, or undiluted.

The Danger of Giving Adrenalin in Hemoptysis.—GRAY DUNCANSON (*Brit. Med. Journal*, March 12, 1904).—In a case of recent pulmonary hemorrhage the writer administered adrenalin internally, at first about two drops of a 0.1 per cent. solution, then a smaller dose, every hour until after six hours the hemorrhage ceased. The next day the pulse, which hitherto had been soft and rapid, had become slow and of a high tension. This high tension continued, and numerous small pulmonary hemorrhages occurred in spite of the fact that the adrenalin was given in continually smaller and less frequent doses. The bleeding ceased entirely only when the adrenalin had been altogether discontinued and the pulse had returned to its former low tension. Duncanson concludes from this observation that the practice of giving adrenalin internally in pulmonary hemorrhage is wrong and illogical. Instead of giving a drug that tends to increase arterial tension, one that (like nitroglycerin) tends to lower it, should be given.

Venesection.—WULSTEN (*Deutsche med. Wochenschr.*, 1904, No. 3) reports the case of a man, sixty-three years old, suffering from nephritis and arterio sclerosis, in which there was extreme pulmonary edema and congestion. Although comatose and apparently moribund, venesection (in which a litre of blood was withdrawn) was followed by prompt recovery. The same condition was effectively combated by the same treatment four times in the course of the following year.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Experiments on the Regenerative Capacity of the Brain.—M. BORST (*Ziegler's Beitr. z. Pathol. Anat.*, 1904).—The very extensive and interesting investigations of the author cannot be reviewed in detail. They are based on the insertion of small foreign particles into the brain-substance of rabbits. The material was prepared from celloidin, that by a delicate process was made finely porous. The general results may be described as follows:

It depends upon the degree of destruction caused by the insertion of this material, whether a proliferation of neuroglia accompanied with the formation of spider cells, or a pronounced formation of connective tissue ensues. Of the greatest interest are the processes going on in the minute channels of the foreign body. The portions of brain-substance, that mechanically during the insertion are forced into these channels, always undergo retrogressive changes. But the author could demonstrate, that from the ends of the injured fibres axis cylinders and medullated fibres grew into these pores. They were accompanied by newly formed neuroglia and in varying degree with proliferations of the connective tissue elements of the circulatory structures.

The Occurrence of Cells With Eosinophilous Granulations and Their Relation to Nutrition.—E. L. OPIE (*American Journal of Medical Sciences*, February, 1904.)

Experimental Study of the Relation of Eosinophilous Cells to Infection with *Trichina Spiralis*.—E. L. OPIE (*American Journal of the Medical Sciences*, March, 1904.)

Studying the presence of eosinophilous cells in the guinea pig, Opie found in normal and pathologic conditions, a great variation in their number (up to 30 per cent.) For him these cells originate from the large mononuclears of the bone-marrow by cell division, so that their increase in the blood goes parallel with an increase of the eosinophilous myelocytes in the bone-marrow. These cells do not multiply in the blood or in other organs, and they appear in the latter (spleen, lymphatic glands, etc.), by emigration. In the blood of starving animals their number steadily decreases; only in the beginning of the starvation

period a slight increase occurs. After interrupting the period of hunger by food, their number gradually returns to the normal.

The same author has investigated the eosinophilous cells in guinea pigs after infection with trichinae. At the end of the second week after feeding the parasites, that means at the time the trichinae embryos begin their migration away from the intestine, the number of eosinophilous cells rapidly increases to reach the acme at the end of the third week. In the lungs and in the mesenterial glands accumulations of these cells occur, resembling small abscesses. The bone-marrow shows an enormous increase of the corresponding myelocytes. Before death the number greatly decreases. Copious infections cause degenerative changes in the bone-marrow.

Note on a Stain Applicable to Differentiate Leucocyte Counts in the Counting Chamber.—B. ONUF (*Journal of Medical Research*, July, 1904).—What promises to be a great acceleration and increase of exactness of the differential leucocyte count is described by Onuf in this paper. Although, of course, an absolute exactness of these counts neither for practical nor scientific purposes is of any value, as everybody will admit, the combination of the count with the differentiation will be a great relief from the tedious old procedures. Onuf uses the ordinary hemacytometer-pipette, employing as a diluting fluid, a mixture that consists of equal parts of a 12 per cent. formalin solution, a 1 per cent. sodium chloride solution, a $\frac{1}{2}$ per cent. eosin (soluble yellowish in water) solution (all aqueous), and of Unna's polychrome methylene blue. The fluids are mixed and filtered. Under gentle heating for a short time beautiful staining of granulations and nuclei of the leucocytes and a yellowish tinge of the erythrocytes ensues, that remains permanent as long as one and one-half hours. Since the number of leucocytes counted in the ordinary chamber would be too small, the author has constructed a disc, allowing to count differentially five hundred leucocytes (in normal blood.)

It is to be hoped that he will succeed in interesting some firm in the manufacture of this chamber, as it is arranged in a way, that at the same time the count of red corpuscle can be made.

The new method is certainly a great step forward in simplifying and generalizing this important diagnostic and prognostic procedure. It may be said, that the staining mixture must be freshly prepared, as it does not keep with reliability for longer than twenty-four hours.

The Mode of Action of Antitoxins in the Living Organism.—A. WASSERMANN, u. C. BRUCK (*Deutsch. Medic. Woch.*, 1904, No. 21).—The question how antitoxins act on the toxins is not only theoretically, but also practically of great importance. So far the direct chemical combination of these two substances could only be demonstrated in the test tube. It has not been proven as yet, that this explanation obtains, too, for the living organism, a fact that instigated Behring lately to introduce into this process the assumption of the action of vital powers.

Wassermann and Bruck have succeeded by a very ingenious method to show, that the simple chemical binding takes place also in the body of the animal, into which the toxin and antitoxin are injected. They in-

roduced into the posterior extremity of guinea pigs a neutral tetanus toxin-antitoxin mixture, after producing in this organ a local anemia (of vaso-constrictor origin) by the previous injection of suprarenin. Under the influence of this anemia the dissociation of the mixture occurred, part of the toxin was liberated and the animals died of tetanus. After the investigations of Meyer and Ransom, the explanation is given by the fact, that after dissociation the path for the toxin (axis-cylinders) is free, while that for the antitoxin (circulation) is by the action of the suprarenin obstructed. The author could, just as in the test-tube experiment, show, that even in the living organism a dissociation of toxin and antitoxin can only occur, as long as the combination is not stable.

The above experiment repeated with a mixture, in which both substances were left in contact with each other for two hours, left the animals unharmed, because after this time in the test-tube also no dissociation is possible.

The experiments prove conclusively, that, like in the test-tube the binding of toxin and antitoxin, follows in the living organism the same chemical laws, and that there is no need for resorting to the intervention of vital factors.

Experimental Contribution to the Immunity Against Typhoid.—R. J. COLE (*Zeitschr. of Hyg. u. Inf. Krankh.*, Vol. 46, H. 3).—That the lasting immunity against typhoid after an attack cannot be due to the continuous presence and production of anti-bacterial substances, has long since been shown by many observations, demonstrating in the majority of cases the comparatively rapid and complete disappearance of all such qualities of the blood of the patient. It was therefore assumed, that the immunity evidently existing, was due to an insusceptibility of the tissues, a histiogenic immunity. That this explanation certainly is not the only one available, Cole has established by experiments in rabbits. He immunized animals against typhoid bacilli and determined the bactericidal titre of their serum. After a certain time, this gradually decreases and finally reaches the normal proportion. If now, at this period, an infinitesimally small quantity of bacteria is injected (so small that in a rabbit previously not immunized, it will not raise the normal titre at all), the serum shows a sudden and enormous rise of its bactericidal qualities. It appears from this that the receptors, after they have once reacted, acquire a quicker and higher capacity of reacting than receptors, never exposed, possess.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

The Effect of Childbearing Upon Fibroid Tumors of the Uterus.—W. R. DARKIN (*Journ. of Obst. of Brit. Emp.*, August, 1904).—The author deals in this paper only with the pathologic-anatomical changes in fibroids and considers the subject under the headings of pregnancy, labor and puerperium respectively.

Pregnancy.—Fibroids grow in pregnancy practically in all cases. Most probably they grow during the whole course of pregnancy and not, as has been claimed by some writers, only during the earlier months. In most cases the increase in size is mainly due to a true hypertrophy, but frequently the tumors become edematous during pregnancy. The softening brought about by the edema is a rather fortunate occurrence because it makes a tumor, situated in the pelvic cavity, capable of adapting itself to what available space there may be. Necrosis is very rare. Firm peritoneal adhesions may prevent the ascent of the uterus and cause incarceration and abortion. Torsion of the pedicle of a subserous fibroid during pregnancy has been met with in only a few cases.

Labor.—Fibroids that fail to rise from the pelvic cavity during pregnancy are very likely to be injured during labor. Degenerative or necrotic changes may follow. Alterations of position during labor are common. In most cases—though not so often as in pregnancy—a fibroid will, during labor, rise above the pelvic brim. Considerable change of position implies a certain danger of intraperitoneal hemorrhage. Submucous fibroids have been expelled by the fetal head, but, as a rule, they cause abortion. Expulsion of a pediculated fibroid after the expulsion of the fetus may lead to an inversion of the uterus.

Lying-in.—If a fibroid tumor survives the strain of labor without injury, it usually undergoes involution along with the normal muscle fibres of the uterus. In some cases the tumor is afterwards found to be smaller than it was before pregnancy. If this process is repeated on several successive occasions, the fibroid may even disappear, at least in a clinical sense. There are well established instances of fibroids disappearing after a single pregnancy. Expulsion of the tumor during the puerperal state is not at all uncommon.

In conclusion, it may be said that the tumor is not apt to suffer so often or so severely during pregnancy and labor as might be expected.

The Cardiopathy of Uterine Fibromyoma.—THOMAS WILSON (*Ibidem*).—Those who have to deal with severe cases of uterine fibroids cannot fail to be impressed by the frequent association of functional and organic affections of the heart. In seventy-two cases operated upon by the author objective signs of heart lesions were found thirty-three times (myocardial affections in fourteen, murmurs in twelve). No new explanation is offered concerning the etiology of these affections of the heart. (Confer editorial in July number of this journal, page 426.)

Malignant Uterine Complications of Fibro-Myomata of the Uterus.—P. W. N. HAULTAIN (*Ibidem*).—This paper is a polemical one, directed against certain writers in recent literature who emphasized the comparative frequency of malignant degeneration in uterine fibroids. In the author's opinion the reason for this uncalled for alarm is not far to seek. "The wish is father to the thought." "The intrepid gynecologist, glorying in the successes of modern surgical technique, loves to believe that fibroids pre-eminently predispose to malignancy, and must without exception be removed."

The author concedes, however, that fibromyomata may become secondarily malignant, as is generally known, though it is by no means so common as might be inferred. He himself observed a case of this kind. He admits that "it is probable that malignant disease of the corpus uteri is more prone to develop in uteri, the seat of fibro-myomata." Out of nine cases of adeno-carcinoma operated upon by the author three were associated with fibroids of sufficient size to be noticed by the patients themselves, while in the fourth case a small nodule was present. Malignant disease of the cervix, on the other hand, in his opinion is a rare complication of the fibroids. He has, however, in four cases of cervical cancer found fibroids in the uterus. The following explanation is given for the comparative rarity of this form of complication: Fibroids are very frequently associated with sterility [which is denied by all modern writers], and thus the essential predisposing factor for the development of a carcinoma, viz., the laceration of the cervix, is lacking. A tendency of cervical stumps, left after supravaginal amputation of the myomatous uterus for malignant degeneration which was especially asserted by Richelot (April number of this journal, page 266) is denied by the author. Apparently the only argument that he can give for his contention is the fact that in one hundred cases thus operated upon by him he has not seen any malignant degeneration.

The writer suggests that the patient as far as possible should be kept in ignorance of the presence of the tumor; "her life is in no way menaced by its presence." [Which assertion is untenable in the light of the very careful investigations made by Martin, Cullingworth and especially by C. P. Noble.] The author concludes that a tumor in the uterus is worth two in the operator's museum so far as the owner is concerned.

On the Choice of Operation in Myoma.—JOHN W. TAYLOR (*Ibidem*).—The author performs the abdominal total extirpation of uterus and appendages in cases of large sloughing myomas and in cases of malignant growths. As a rule he gives preference to the supravaginal amputation of the uterus if he is forced to take the abdominal route. For smaller tumors, if not much larger than a cricket ball, he considers vaginal panhysterectomy the best method of operation. In very anemic patients, who cannot even stand the shock of the vaginal operation, he removes the uterine appendages per abdomen. He thinks very little of the modern tendency of enucleation of myomata, and believes that this operation should be limited to cases in which there is a single enucleable tumor in the uterus.

Tuberculosis and Pregnancy.—O. FELLNER (*Wiener Med. Wochenschr.*, Nr. 25-27, 1904).—The writer's conclusions are based upon 300 cases observed in Schauta's clinic in Vienna. He believes that in all cases of far progressed tuberculosis the pregnancy should be interrupted at the earliest date. The one form which is the most serious complication of pregnancy is tuberculosis of the larynx. This affection was found to have a mortality of 61 per cent. In the writer's experience serious cases succumbed when labor occurred in the fifth month of pregnancy, and he, therefore, pleads for immediate artificial abortion even in incipient cases of tuberculosis of the larynx. Nothing can be gained in severe cases by interfering with the pregnancy in later months. Marriage should be prohibited in all cases of tuberculosis of the larynx.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

The Diagnosis of Scarlet Fever and Scarlatinoid Affections.—SCHAMBERG (*Jour. A. M. A.*, August 6, 1904) says that of all the eruptive diseases scarlet fever, in obscure cases, offers the greatest difficulties in diagnosis. In clear, well marked cases the diagnosis is of course easy. But where the rash is faint, the constitutional symptoms mild and the throat and tongue uncharacteristic, errors in diagnosis are very frequent. There is no one symptom which is characteristic of the disease. For we may have scarlet without rash, without fever, or without sore throat. In obscure cases, the discovery of the disease in a person to whom the patient has been exposed, may clarify the diagnosis. Again, the diagnosis may be confirmed in doubtful cases by the transmission of the disease from the suspected patient to another person.

The typical strawberry tongue, when present, is a sign of great value; but in the mild and therefore obscure cases the tongue often fails to show the characteristic appearance. The author does not believe that enlargement of the papillae of the tongue is present in every case, as held by some observers. On the other hand, the tongue in well persons shows a variable amount of prominence of the lingual papillae. Again, the typical strawberry tongue may in rare cases be present in affections other than scarlet fever, notably in severe cases of scarlatiniform erythema. Speaking generally, however, the presence of the characteristic tongue affords strong confirmatory evidence in doubtful cases, while the absence of this sign does not negate the diagnosis. The author denies that the occurrence of desquamation after a scarlatiniform eruption always justifies the diagnosis of scarlet. Not every diffuse rash that desquamates is scarlet fever. Thus the scaling in some cases of desquamative scarlatiniform erythema is much more extensive than occurs ordinarily in scarlet fever.

Too much importance has been attached to the mere fact of desquama-

tion in scarlet. The time of onset of the scaling, its mode of progression and its persistence are of much more diagnostic import.

Desquamation in scarlet usually begins on the face, on the fourth to sixth day. After this it is noted on the neck and the upper portion of the chest. The hands ordinarily begin to peel from the twelfth to the fourteenth day. On the feet peeling often does not begin till the third week.

Scarlatinoid eruptions usually begin to scale earlier, particularly on the hands and feet. Scarlet fever scaling probably persists longer than peeling after scarlatinoid rashes. A form of scaling frequently seen in scarlet is that which begins just beneath the free border of the finger nails, extending thence down the fingers.

With reference to differential diagnosis, the so called erythema scarlatiniforms often offers great difficulties. The rash here may be quite indistinguishable from that of scarlet. It is often sudden in onset, accompanied by malaise and moderate pyrexia. The throat may be reddened, but there is no swelling of the tonsils and no complaint of sore throat. The eruption has about the same duration as that of scarlet, though it may be more brief, and is followed by a desquamation usually branny, but sometimes flaky.

Acute exfoliative dermatitis differs from the above type in degree rather than in kind. This type is particularly prone to recurrence, and many cases of alleged repeated attacks of scarlet doubtless really belong in this category.

These eruptions are due to toxic or septic conditions, or to the action of drugs or sera. Simple scarlatiniform erythema may occur in the course of various infectious processes, such as rheumatism, septicaemia, pyaemia, malaria, typhoid, smallpox, etc. Diphtheria antitoxin and other sera may produce rashes which bear the strongest possible resemblance to scarlet.

The drugs which most commonly give rise to scarlatiniform rashes are quinin, mercury, belladonna, and salicylic acid, though other drugs may have this effect in susceptible subjects.

The differential diagnosis of these rashes from scarlet may at times be very difficult. Absence of swelling of tonsils and uvula, absence of the reddened, papillated tongue, and lack of enlargement of the cervical glands are points of importance. Another point is that the intensity of the rash is out of all proportion to the amount of constitutional disturbance. A history of previous attacks is of course a valuable aid.

In conclusion, the author points out that a proper sense of proportion must be cultivated in formulating the diagnosis of an obscure condition. The various manifestations of scarlet each have a value, and their presence or absence must be given due weight in the conclusions drawn.

Syphilis Haemorrhagica Neonatorum.—HESS (*Archives of Pediatrics*, August, 1904) in connection with a case report of this sort, gives a careful review of the literature of the subject. It appears certain that in these cases syphilis is an important factor, producing changes in the blood vessel walls and in the perivascular tissues, and in the blood itself. It is noteworthy that the course of many of these cases is altogether similar to that of cases of so-called "Spontaneous Haemorrhage of the New

Born." In both the syphilitic and non-syphilitic cases, the more recent investigations show the presence of various types of micro-organisms in the blood and viscera at autopsy. In several cases in fact they have been found *ante mortem*. Among the organisms found may be mentioned streptococci, staphylococci, pneumococci, *b. pyocyaneus* and *b. coli communis*.

In these cases, therefore, we may recognize two etiological factors: (1), hereditary luetic infection, and (2), septic infection.

It is possible that in some cases, as in those reported by Mracek, the syphilitic factor is the only one present. Such cases can be classified strictly as syphilis haemorrhagica neonatorum. Where both factors are present, the author thinks that the cases should be classified as syphilis hereditaria, with haemorrhage due to secondary infection.

With reference to treatment, both the direct and indirect method of systemic treatment should be instituted at once in every case.

The indirect method consists in the administration of large doses of iodids to the mother (supposing that she is nursing her child). Mercurials are without effect when administered in this way.

For direct medication the author prefers the application of Unna's emplastrum hydrargyri mull. using a piece two or three inches wide over the abdomen, to be replaced at the same, or in a different location, every second day.

The inunction method can of course be used also. For internal administration the author advocates hydrarg. cum creta gr. one-half to one, or calomel gr. one-tenth to one-twentieth three times a day. Even when anti-syphilitic treatment is instituted at once, the mortality is very high on account of the liability to secondary infection.

The local treatment of the haemorrhages by styptics, etc., the author considers almost valueless, 10 per cent. solution of gelatin or sol. of adrenal in chloral may be tried.

Our greatest hope lies in prophylactic treatment of the mother during pregnancy, and this should be systematically carried out in all suspicious cases.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

Study of a Case of Lateral Curvature of the Spine. A Report of an Operation for the Deformity.—MICHAEL HOKE, M. D., Atlanta, Georgia. (*Atlanta Journal-Record of Medicine*, July and August, 1904).—The case was one of lateral curvature with bony deformity. The writer goes carefully over all the mechanics and various forms of treatment of the condition. He decided to operate and correct the deformity by osteotomy of the ribs, following this with corrective jackets. This is entirely an original procedure, so with great care he made numerous operations on the cadaver and designed a set of instruments especially fitted to the operation. His case was one of extreme deformity in a young woman.

She submitted to three operations and treatment lasting over a year; most of her ribs were divided and her thorax was moulded into a position which relieved the deformity to a marked degree.

The writer states in conclusion that in the future lateral curvature with osseous deformity must be treated as follows:

1. Exercises must be taken in order to do away with all contraction of ligaments, fascia and muscular resistance to flexibility, and to build up the general health. The writer thinks that all the movements of the trunk must be executed in exercise regardless of the influence of such exercise upon rotation of the vertebrae, flexibility being the sole object.

2. The flattened side of the back must be operated upon so that side forces (ribs) applied to the spine may be so weakened and the ribs made so flexible that the plane of the thorax beneath the shoulder may be changed to as near the normal as possible, the flat ribs recurved toward the normal, and the resistance to rotation reduced or destroyed.

3. Then a series of jackets must be applied, using the prominent side as a point at which to apply pressure to obtain counter-rotation. The jackets are to be applied till the bone-union in the ribs is perfectly firm.

4. The curves in the ribs on the prominent side must by operation be restored to as near normal as possible, in order to do away with the prominence and to restore the natural plane of the thorax beneath the shoulder.

5. A series of corrective jackets must be applied until the bone-union is firm and all the correction possible is obtained.

6. A removable jacket and daily exercise.

The Early Diagnosis of Pott's Disease.—FRANK P. VALE, M. D., of Washington, D. C. (*Medical News*, July 23, 1904).—Most every one has seen cases of spinal caries with a well marked deformity that were being treated for stomach trouble or intestinal trouble: the mistake is all too common. Sir Frederick Treves, in the *London Practitioner* (1903, p. 1), confesses that he opened an abdomen for persistent gastric symptoms, and later had the nurse call his attention to a hump on the patient's back. The writer then calls attention to three cases that came under his notice where the diagnosis was wanting. One of these cases was accused of drinking to excess when he developed an unsteady gait, due to paraplegia, and was later circumcised in the hope of curing the loss of control over his bladder and rectum.

Pott, in his original paper written in 1799, called attention to the frequency of abdominal pain.

By Benjamin Brodie in 1818, and by Copeland in 1815, papers were written which covered the complete physical signs of Pott's disease. In spite of this, Jones and Ridlon write in the year 1892 the following: "There seems to be an almost universal belief among the profession that the diagnostic symptom of Pott's disease is tenderness on pressure over the diseased point." One James Earle, a contemporary of Pott, is in part responsible for this error, for he wrote that he could diagnose the disease by making gentle pressure over each vertebra, one after the other. He cured his cases quickly by "caustic issues" and has thus thrown grave doubt on his powers as a diagnostician.

The x-ray now plays an important part in early diagnosis, especially in the cervical cases.

The paper calls for consideration of Pott's disease. No mistake is so reprehensible as to miss the diagnosis, especially where deformity is present. Any one reading the paper will be impressed with the importance of not leaving Pott's disease out of consideration until he is sure that it does not exist.

Congenital Dislocation of the Hip. Report of the Orthopedic Staff of the Boston Children's Hospital, Based Upon Observation of One Hundred and Forty-four Cases.—E. H. BRADFORD, R. W. LOVETT, E. G. BRACKETT, AUGUSTUS THORNDIKE, JOHN DANE. (*Boston Med. and Surg. Journal*, July 28, 1904).—On the subject of congenital dislocation of the hip, nothing has yet appeared that equals the value of this report. It starts in with the cases treated by Dr. Buckminster Brown, who first attempted treatment for this condition, and shows the gradual improvement in the treatment up to the present day. The improvement, though gradual, has been well marked, so that the cases which before the days of Buckminster Brown were regarded as beyond help now are reduced permanently to the extent of 60 per cent. The development of the reduction idea had its beginning in recumbent traction; this was soon discarded for ambulatory traction, which also gave failures. Then came open incision and the various experiments it made possible, such as gouging out the acetabulum, and cases began to be cured. The Paci-Lorenz method, done by Dr. Lorenz himself on eleven cases is included, as is also one case operated upon by Dr. Hoffa, by his open method. The cases where machine stretching was employed to overcome the abductor resistance (twenty-four in number) are given and here we begin to see favorable results, for out of the twenty-four cases sixteen were successful. These last have all been done in 1903, and added to them we have six out of eight successful by manual manipulation. Contrast this with the fact that of the twenty-one cases treated between 1884 and 1896 not one was successfully reduced.

Static Foot Errors. Analysis of One Thousand Cases.—WILLIAM E. BLODGETT, M. D., Boston. (*Journal of Amer. Med. Association*, August 20, 1904).—The object of the investigation was (1) to contribute to the sum of available statistics of static foot error; (2) to draw from the cases any warrantable conclusions. The cases are those that reported for treatment at the Carney Hospital, Boston, during the two years and four months preceding September 1, 1903. The percentage tables are carefully figured out and are interesting. Of all orthopedic cases 40.8 per cent. presented static flat feet—i. e., the foot that presents an error in weight bearing. Two-thirds of the cases were under forty years of age. The order of frequency in which the cases occurred was summer, spring, winter, then fall. In two-thirds of the cases both feet were painful, the other third was about equally divided between right and left. Pain was referred to the feet alone in 68.1 per cent., pain wholly above the feet in but 2.2 per cent. Swelling was localized in over half the cases at the astragalo-scaphoid articulation. Tenderness was most common over the center of the heel. In nearly all the cases the anterior

arch was involved to some extent in the flattening. In 116 cases it was tabulated painful.

Treatment was applied to 86.7 per cent. of these cases in the form of a steel plate made over plaster cast of the individual's foot, so as to correct the error. The others were treated by Thomas soles and plate substitutes. Only 396 of the cases seen carried out the treatment given in a diligent manner; of these 71 per cent. were relieved, 5.3 per cent. were slightly relieved and the rest were entirely unrelieved. The cases treated by the Thomas sole and plate substitutes did not show as good a percentage as the ones treated with a metal plate. The plate had to be changed after a variable period of time in the majority of cases.

Success in these cases requires the intelligent co-operation of the patient, and it should always be made clear to the patient that the plate or shoe is only a temporary crutch that must be discarded as soon as possible.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Optic Neuritis in Cases of Intracranial Tumor, with Special Reference to the Neuroglial Cells Present.—FLEMING (*Review of Neurology and Psychiatry*, August, 1904).—As a result of the microscopic examination of a number of optic nerves, mostly from cases of intracranial tumor, abscesses and meningitis, a new verification of an old theory with regard to the nature of optic neuritis in cases of intracranial tumor is offered, namely, that a toxin of some special kind is responsible for the condition. The paper gives an account of the theories of optic neuritis as regards its occurrence in intracranial tumors, and also on account of the microscopic appearances described in optic neuritis, and especially the neuroglial changes found in the specimens. They are: (1) A proliferation. (2) The protoplasm of the cell is enormously increased. (3) Many of the larger cells have a distinctly granular cytoplasm. (4) The nuclei of the cells become much larger, show definite karyokenetic figures, and, as a whole, stain more faintly than the normal neuroglial nuclei do. The theory which the author offers to explain the occurrence of optic neuritis in intracranial tumor is that the tumor, either in consequence at all or its position in a special region of the brain, causes a toxic change in the optic nerves. The cerebro-spinal fluid is the agent which conveys the toxin, and this because the neuroglial cell changes are best marked near the pia sheath and certainly bear some relationship to the position of the lymph channels.

Sacral Spina Bifida, with Reference to the Skin Representation of Sacral Nerve Roots.—E. W. TAYLOR (*Boston Med. Surg. Journal*, August 25, 1904).—This is an account of a patient aged thirty-three years who has had a sacral spina bifida since birth, and with this condition there has been incontinence of urine and feces. The pathological condition is as

follows. A defect of development of the sacrum, with resulting spina bifida, producing symptoms referable to the sacral cord through involvement of its nerve roots of predominant sensory character. The tumor is too low for direct involvement of any part of the spinal cord, the result, however, being essentially the same from interference with sensory conditions through the lower nerves, which presumably form part of the walls of the sac. The possibility of operative interference is out of the question, because the tumor is meningo-myelocoele. The points of significance which a study of this case brings out are: The existence of areas of anesthesia from lesion of sacral nerve roots, which in general coincide with Head's description of their skin representation. The retention of sexual capacity in spite of extensive destruction of the sacral nerve roots. The absence of marked disturbance of gait in spite of plantar anesthesia. The practical possibility of physical cleanliness, with both vesical and rectal incontinence.

A Case of Family Tabes Dorsalis of Syphilitic Origin—Tabes of the Mother and of Her Two Hereditary Syphilitic Daughters.—NONNE (*Berl. Clin. Woch.*, No. 32, 1904).—Nonne has held that the syphilitic poison is especially deleterious to the nervous system. A number of cases are here described in which the close relationship between syphilitic infection and a certain family disposition to the development of tabes is brought out. The cases throw a great deal of light on this question, and the author expressly states that the problem of the close affinity between tabes, dementia paralytica and specifically infected nervous system and a family tendency in this direction, and likewise the influence of surroundings as well as specific affinity of the syphilis toxin on the nervous system, needs in every case the closest critical study.

Auditory Symptoms in Cerebral Tumors.—SOUQUES (*Revue Neurologique*, No. 14, 1904).—There are two sorts of symptoms found in cerebral tumors. In one the auditory is itself involved in the tumor growth, and the resulting symptom of unilateral auditory affection is produced. In the other there is no direct involvement of the nerve itself, and the symptoms are generally bilateral. In this form the nerve itself is generally found intact. To illustrate, the author gives the history of a case in which there were distinct signs of auditory involvement in the way of bilateral deafness. There was no lesion of the middle ear. A diagnosis of tumor involving the auditory at the base was made. At the autopsy it was found that the tumor was in the præfrontal region on the left. The author believes that cerebral tumors in general, especially if they grow rapidly, are capable of producing alterations in the inner ear on account of the augmentation of the pressure of the cerebro-spinal fluid. Auditory troubles of more or less intensity may follow. This condition is analogous to the papilitis of the optic nerve.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Surgical Anatomy of the Normal and Enlarged Prostate.—WALKER (*British Med. Jour.*, July 9, 1904).—An exhaustive description of the structure and relations of the normal prostate and the changes that take place as the organ enlarges, is given. It seems that the capsules around the prostate are not accurately described in the text-books. Walker finds that the prostate has a capsule of its own which surrounds it and sends partitions into it. This capsule is quite closely attached to the parenchyma. The prostate with its capsula propria is surrounded by another capsule, which is made up of the pelvic fascia, and to which the connection is not so intimate. In hypertrophy the capsula propria is thickened, and thus more individualized.

Findings in four cases at the autopsy of patients who died shortly after a prostatectomy, gave the author an opportunity to find out what was done upon cases operated upon after Freyer's method, an account of which is given in detail. That a small piece of prostatic tissue was, rarely, left behind after the enucleation, appears to be accidental. The prostatic urethra was torn at the veru montanum, where the prostatic glands empty into the urethra, the ejaculatory ducts remaining as a tongue-like projection.

One Hundred and Ten Cases of Total Enucleation of the Prostate for Radical Cure of Enlargement of that Organ.—FREYER (*The Lancet*, July 23, 1904).—The operation of partial prostatectomy—that is, the removal of the projecting lobes into the bladder, which was first done by Belfield—was inadequate because the bladder failed afterwards to regain its tone, and the prostatic tissue that was left formed a nidus for the reappearance of the growth. The usual description of the prostate tunneled by the urethra is erroneous. The two prostatic lobes develop separately, and in foetal existence are apart and distinct. Later, these two lobes are connected with each other by the anterior and posterior commissures, the urethra, as well as the ejaculatory ducts, lying between the two lobes. The prostate, then, is composed of two glands almost as separate and distinct as the testicles, which empty through their ducts on each side of the caput gallinaginis. They are surrounded by distinct capsules, which are fused together in the median line.

Based on this anatomy, Freyer's operation is done in this wise: After the ordinary cystotomy, with the fingers of one hand in the rectum pressing up on the prostate, the index finger of the other hand, in the bladder through the opening above, scratches its way through the mucous membrane of the bladder over the most prominent projection of the prostate in the bladder until the capsule proper of the prostate is reached. Following the capsule the finger enucleates through this opening the entire prostate, sometimes leaving the prostatic urethra, sometimes rupturing it—it making no difference in the results. As the

prostate enlarges, it pushes its way through the bladder wall until the inside projection is scarcely covered by anything but the mucous membrane. While the ideal of Mr. Freyer's operation is to leave the urethra intact, yet it is not always done. He reports 110 cases of prostatectomy done by his method, the ages ranging from fifty-three to eighty-four years, with an average of sixty-eight years. The weight of the prostates removed ranged from three-fourths of an ounce to fourteen and one-half ounces. Of the 110 cases three proved to be cancerous, leaving 107 cases of adenomatous prostates. Of these, 97 were successful—completely successful.

This operation is no half-way measure: a complete cure may be guaranteed. Mr. Freyer considers the results he has obtained wonderful, and equally startling is the low mortality as compared with that of other surgical operations. He has encountered no subsequent contraction showing a tendency to stricture.

Unsuspected Lesions in Movable Kidneys Discovered During Nephropexy.—TAYLOR (*Annals of Surgery*, August, 1904).—Out of thirty cases of nephropexy, in three (or 10 per cent.) unsuspected lesions were found. Five cases are quoted by the author in which during a nephropexy other disease than the mere looseness of the kidney presented itself, two of which were renal calculus, one hydro-nephrosis and congenital smallness of the ureter, and two renal tuberculosis. From a consideration of these cases it may be regarded as conclusively proved that a movable kidney is not uncommonly the seat of some lesion. If a patient suffers from a movable kidney which gives rise to definite symptoms, there is absolutely no reason why he or she should not be operated upon and obtain the relief to be derived from a well-performed nephropexy. In this operation the kidney should be brought through the wound in the loin for careful inspection and palpation before it is stitched in its proper position.

Transverse Ectopy of the Testis.—BERG (*Annals of Surgery*, August, 1904).—In this case the left testicle lay at the bottom of the left half of the scrotum, and was of fair size. The right testicle was at the left internal ring, where a hernia existed. Both testicles and cords were intimately connected with a hernial sac on the left side. Both cords passed through the left inguinal canal. The scrotum showed no evidence of division into two compartments. The right internal ring was closed. Both testicles and cords were treated, when operated upon, as one, the testicles being pulled into the left scrotum and the hernia sac closed. Six months later no return of the hernia. Both testicles movable and in the left scrotal pouch.

Treatment of Rupture of the Posterior Urethra.—VAN HOOK (*Med. Rec.*, August 20, 1904).—In this article the author reviews the subject of treatment of rupture of the posterior urethra, and cites his method of finding the posterior portion of the urethra, as follows:

With the patient in the lithotomy position and an adequate perineal wound, place the volar surface of the index finger against one of the rami

of the pubic bone. Cause the finger to follow the arch of the pubes from a point chosen on one side to a point corresponding on the other side. The finger being moved transversely across the perineal structures, with no important tissues between it and the rectum, the urethra is necessarily felt between the finger and the pubic arch. It slips under the finger as a broad, somewhat flattened band. The urethra being fixed by two fingers against the pubic arch, the soft mass in which it lies may be boldly incised with a knife.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Preliminary Report of a Peculiar Infection of the Mouth and Throat with a New Variety of Oidium Resembling Thrush.—R. R. OLIVER, M. D. (*California State Journal of Medicine*, August, 1904) —During the last year the author has seen sixteen cases of this peculiar infection of the mouth, tonsils and pharynx. The condition varies in severity, in extent, acuteness and chronicity. Most of them were chronic and in persons over twelve years. The acute form is seen in children under twelve years. The first symptom noticed is a hard, dry, itchy paroxysmal cough, difficulty and pain in swallowing, coryza, aching back and limbs. In the mouth one first sees a coated tongue, strawberry in character, inflammation of the mouth, uvula and pharyngeal wall. This is soon followed by enlargement of uvula and tonsils until they nearly meet, the tonsil being covered with a small amount of thin grayish white membrane, cellular-like, the uvula remaining clean. The cervical and submaxillary glands become enlarged and tender. Temperature may remain normal or go up to 103. The membrane on the pharyngeal wall forms a "V" shape, apex downward, and is definitely outlined. This with the membrane on the tonsils, which thickens in patches, becomes adherent and is elevated and bleeds if irritated. About this time small, gray, elevated, hard and firm patches occur on the tongue in the center and may reach to the tip and extend over the sides. They are about the size of a large pin head and larger. The glands of the neck become larger and the cellular tissue in some cases is edematous. Temperature may go to 103. The patches on the tongue may unite and form larger patches. They are elevated, firm, furry and can be removed only with difficulty and pain. At this time the symptoms in the pharynx subside and disappear, leaving a red, granular surface. The tonsils next clear and deep ulcers punched out in appearance may ensue. The disease then undergoes gradual involution. However, the patches on the tongue may enlarge and new ones form until it has a pinto appearance, or they may slough and fall out, leaving ulcers, or it may swell and protrude from the mouth. These ulcers on the tongue may remain from three to six months. Cover-slip smears from the mouth show numerous round or ovoid bodies 6 to 8 μ in diameter, with double contour, staining

lightly, except a larger chromatin granule situated at the thick end; joining at this point by a constricted neck is a more or less long, thin thread which may or may not be jointed. These threads may be branched. The author succeeded in obtaining a pure culture upon 8 per cent. glucose agar to which was added 1 per cent. HCl. The cultures grow slowly, taking six to seven days. Upon animals, when injected into the general circulation (rabbits), it forms multiple abscesses in all the organs except the lungs, millet seed in size. Pure cultures were obtained from these abscesses. Rabbits died in three and one-half to five days. Subcutaneous injection causes abscess at the site of the puncture, with abscesses in the surrounding skin. In two instances three patients in one family were affected, one after the other. A professional friend of the author, working at the table where he was doing his autopsies on rabbits, became infected and showed all the acute symptoms on the pharynx, tonsils and tongue. In this case pure cultures were obtained.

Hyperidrosis Pedum and Its Treatment by Baths of Permanganate of Potash.—LUDWIG WEISS, M. D. (*Pl American Med. Association*, August 6, 1904).—The author's line of treatment is as follows: All cases are started with 1 per cent. solution, temperature 104°. The fluid in the receptacle should be ankle deep and the foot immersed in it fifteen minutes. The foot is then dried by patting with old cloths. This is done at night just before bedtime. Next morning the foot is dusted with the following powder: Potassium permanganate, 13.0; aluminis, 1.0; talcum, 50.0; zinc oxid, lapidis, calaminaris, aa 18.0. Shoes and stockings are changed daily. Next day the permanganate bath is again taken for fifteen minutes, and this procedure continued from two to three weeks, but the strength of the solution is increased 2 per cent. gradually. The advantages in this treatment are: 1. The remedy employed is absolutely devoid of any danger, is painless and heals the dreaded fissures without the painful application of silver nitrate. 2. It may be employed in every stage and form of sweating feet. 3. Relapses are less common than in other forms of treatment. 4. The dusting powder has made the intervals of relapse even longer than three months.

A Case of Onychomycosis Blastomycetica.—DR. EMMA DUEBENDORFER (*Dermat. Centralblatt*, July, 1904).—The patient was thirty-two years old. Disease started on the fingers of the left hand two and a half years before. There was swelling and redness of the nail. At consultation the last phalanx of the second finger of the right hand and the third finger of the left hand were slightly swollen. The nail was broken and split up. Pure cultures of the blastomycetes were found in the pus from the nails. Finger nails were extirpated, embedded in paraffine. Stained by Gram, Weigert and other methods. In the nail substance blastomycetes were found.

Lepra of the Ovaries.—L. GLUECK and R. WODINSKI (*Archiv. f. Dermat. und Syphil.*, T. lxxvii, p. 39).—After a number of clinical, histological and bacteriological researches of the leprous ovaries and testicles, the

nature of leprosy in these organs has not been absolutely determined, and the cause of impotency in lepers is yet to be elucidated. This also applies to the apparent sterility of leprous women. In many of the leprous females menstruation is irregular or arrested. In the report of the Commission of the National Leprosy Fund, 364 marriages of lepers, in which one or both parties had the disease, gave, after the beginning of the leprosy, 468 infants. The authors have examined the ovaries of six females who had died of leprosy. In all of these cases they have found chronic interstitial inflammation in the form of sclerosis of tissues, occasional atrophy or hyperplasia of the organs. Chronic leprous oophoritis is explained in the following manner: The bacilli enter the tissues through the veins and cause by their toxins an irritation of the vessels and their obliteration. At the same time the perivascular connective tissue undergoes chronic cellular proliferation. From the partial or complete obliteration there is damming of the peripheral parts of the organ followed by an atresia of the primordial follicle.

Lichen Scrofulosorum.—F. PORGES (*Abstract Annales de Dermat. et de Syphil.*, June, 1904).—Porges reports two cases of this affection. The first occurred in a young man of seventeen. The histologic picture occurred in accordance with the researches of others, the presence of true tubercles, with all their characteristics, round cells, epithelial cells and giant cells. The tubercles are constantly in connection with the follicle. The other case, a young man of nineteen years, developed the disease consecutive to the injection of tuberculin. This occurrence has been known before and it may be explained by the existence of a latent tuberculosis reacting to the influence of the tuberculin.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Ozæna (Atrophic Fetid Rhinitis) a Cause of Gastritis.—ADOLPH BRONNER (*British Medical Journal*, July 16, 1904).—One of the most characteristic symptoms of ozæna, apart from the offensive smell, is the peculiar pale, ashy complexion of the patient. A bad taste in the mouth in the morning, with vomiting and no appetite, are common complaints. These symptoms are due to the passing of the offensive nasal discharge, full of bacilli, into the stomach, causing a fatty degeneration of the glandular elements and consequent incurable indigestion. The author has washed the stomachs of several patients during the early morning, and was amazed at the offensive condition of the contents. Several cases are cited in which a cure of the nasal discharge resulted in a cure of the gastric trouble. As to the treatment of ozæna, the writer states that one or more of the accessory sinuses are usually involved, and, unless they are opened and treated, the ozæna cannot be cured. He finds that

formalin used as a spray or douche prevents the formation of crusts and removes the offensive smell better than any other remedy.

The Local Treatment of Hay Fever.—FULTON (*Journal A. M. A.*, July 30, 1904).—The author states that he has had remarkable success in the treatment of hay fever by means of local applications of quinine. The treatment consists of the employment of a saturated solution of the quinine sulphate in sterilized water as a nasal spray, and the application to the mucous membrane of the nose of an ointment consisting of quinine and vaseline in the proportion of 30 grains to the ounce, the application being made every six hours. The use of the spray alone will not suffice, but should be made as an adjunct to the ointment. Spraying the nose will at once stop all the symptoms of coryza, but the effect will soon disappear unless followed by a thorough application of the ointment. The ointment can be applied by means of the little finger. If the bitter taste of the quinine should be objectionable, euquinine can be substituted. Fulton believes quinine to be a remedy of actual value in the treatment of hay fever, and states that it will promptly and completely relieve a large proportion of the cases.

The Importance of Serum Agglutination in the Early Diagnosis of Primary Tuberculosis of the Middle Ear.—A. DE SIMONI (*Gazzetta Degli Ospedali e Delle Cliniche*; rev. *N. Y. Med. and Phila. Med. Jour.*, July 30, 1904).—The author recommends the employment of the serum agglutination reaction in the early diagnosis of tuberculous disease of the middle ear. He bases his reasoning upon the great usefulness of this reaction in the diagnosis of pulmonary tuberculosis, and the necessity for an early detection of tuberculous trouble in the ear. The test consists in obtaining a small quantity of blood serum from a puncture in a finger of the patient by means of a sterilized pipette, and of testing the agglutinating powers of this serum upon certain specially prepared cultures of the tubercle bacillus, known as "homogeneous cultures," prepared according to the method of Arloing. A known number of drops of this culture is added to a known number of drops of the serum, and the mixture is shaken in a tube and allowed to stand at room temperature for from four to six hours. If a flocculent deposit takes place, the reaction is positive; if the contents of the tube remain unchanged, the reaction is negative and if the sediment is scanty and the cloudiness slight, the reaction is uncertain. A hanging drop preparation of the mixture may also be examined, after preliminary staining, in order to confirm the presence of agglutination. The author has performed this test in twenty cases of middle-ear disease, and thinks that it is of great value in determining whether the malady is tuberculous or not.

The Non-Operative Treatment of Aural Inflammations.—PANSE (*Muenchener Medizinische Wochenschrift*, July 5, 1904) states that the laity have as little right to treat the aural cavity as they have to treat any other wound. He calls attention to the dangers of the dropping of hot oil into the canal and the harm done by irrigations with various fluids. The oil forms a paste with the cerumen, which is very difficult to remove, and he cites a number of instances where the canal became com-

pletely obstructed and serious brain complications were the result. He claims that irrigations as ordinarily done, are ineffective, because the fluid rarely reaches the diseased area and a certain amount always remains in the sulcus formed by the drum and the floor of the canal, which becomes a hotbed for the pathogenic organisms. The author employs irrigations only in cases of impacted cerumen and foreign bodies. The middle ear is irrigated only by means of a catheter through the eustachian tube. The effects of localized heat are much more readily secured by warm external applications. When drops are to be employed, the best form consists of a solution of carbolic acid in glycerin. The solutions should never be stronger than 5 per cent., as serious results have been reported when stronger solutions were employed. Paracentesis is urged in all cases where there is a bulging drum membrane, and after cleaning out the canal, a small quantity of a mixture of iodoform and boric acid powder should be insufflated, and a light gauze packing introduced. In order to avoid softening of the epidermis and consequent secondary infection, the canal walls should be mopped every few days with a $\frac{1}{3}$ per cent. solution of nitrate of silver. If these methods are carefully followed many cases will, in the author's opinion, be saved from operation.

The Surgical Treatment of the Peripheral Paralysis of the Facial Nerve; Grafting the Facial Upon the Hypoglossal.—ALEXANDER (*Ochir für Drenheilkunde*, Band 62, Heft 1 and 2).—After reporting a case of facial paralysis in which the author grafted the facial upon the hypoglossal he reviews briefly the literature on all the reported cases. From his study of the cases, he concludes:

1. The grafting of the facial is not to be undertaken in any case until all other methods for restoring function have been given a thorough trial. Massage and electricity should be tried for at least six months.

2. After that time all cases are to be operated upon: (a) In which no voluntary contractions are present; (b) in which no faradic reaction is present; (c) in which the galvanic reaction becomes less in spite of the treatment a result is to be expected, in cases which are older than six months, only when there is a trace of galvanic reaction remaining.

3. If there is a prompt faradic reaction, even in old cases, conservative treatment is justifiable.

Adenoids in Infants.—JARECKY (*N. Y. Med. and Phila. Med. Jour.*, August 13, 1904).—Adenoids in infants under three months of age are so exceedingly rare that many competent observers denied their existence. In a general search through the literature on the subject, the author found only casual references to the condition. Jarecky reports in detail five cases in which the diagnosis of adenoids was made and the growths removed with a curette, the youngest being only eight days old. In making a diagnosis of adenoids in infants, the writer states that we must naturally depend to a great extent upon inability to nurse properly and noisy breathing, other causes of course must be excluded. He has had a special curette made for the removal of these growths in infants. No anesthesia is employed, as the patients are easily held. No after-treatment is necessary. In conclusion the author emphasizes the

fact that adenoids do exist in infants, and that an early operation saves the patient from the defects caused by ignoring their presence.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

A Case of Foreign Body Remaining in the Lens of the Eye for Six Years with the Lens Remaining Clear.—F. N. LEWIS (*Med. Rec.*, August 6, 1904).—A fragment of steel, 2 mm. in its longest diameter, penetrated the lower nasal quadrant of the cornea and lodged in the lens to the supratemporal side and slightly posterior to the equator. V=20-200. Irritation very slight, and soon subsided.

The practical certainty that removal of the foreign body would lead to the development of traumatic cataract induced the writer to treat the case expectantly, especially as the patient was intelligent and could readily be controlled. The wisdom of this course is now obvious (six years after the accident), the injured eye being entirely free from irritation with V=20-20.

A Criticism of Jequiritol and Jequiritol Serum.—DE WEEKER (*Ann. D'Oculist.*, June, 1904).—According to De Wecker the original claims regarding the feasibility of a regulated and exact dosage of jequiritol and the possibility of modifying or controlling an attack of jequiritol conjunctivitis by the use of jequiritol serum have not been substantiated by the results of clinical experience.

Jequiritol therapy is painful and disagreeable. Serious complications following the use of jequiritol include clouding of the cornea, the appearance of fresh vascularizations, ulcers of the cornea, deep necrosis of the conjunctiva and dacryocystitis. Occasionally have been observed suppurative bullous keratitis, lid abscesses, cutaneous eczema, erysipelas and parotitis. The method of application, the capacity for absorption of the conjunctiva and the type of the disease are all factors to be taken into account in predicting the probable reaction. Not infrequently a case will fail utterly to react to the three lower strength solutions (I, II and III), and then respond violently to the application of the fourth, or highest, strength solution. The gradual immunization of the conjunctiva by the instillation of jequiritol in increasing strengths may defeat the end desired, as clinicians are pretty well agreed that the reaction to be effective in clearing a thick pannus must be a violent one.

The efficacy of the serum has been seriously called in question by its failure in a number of instances to control the inflammation excited by jequirity.

De Wecker concludes that jequirity, either macerated or powdered, is greatly to be preferred to jequiritol, especially as its use is not followed by serious complications.

A Fatal Case of Diphtheria of the Conjunctiva.—S. STEPHENSON (*Ophthalmoscope*, August, 1904).—A wasted and neglected infant of nine months developed closely adherent membranes on the upper palpebral conjunctivæ four days after the appearance of a conjunctival catarrh. There was a nasal discharge, but no complicating diphtheria of the nose or fauces. Temperature subnormal. Six thousand units of antitoxin were injected without avail, the baby dying (apparently of cardiac failure) on the eighth day of the disease.

Cultures from a fragment of membrane removed during life showed (1) Klebs-Loeffler bacillus, (2) staphylococcus pyogenes albus, (3) streptococcus longus, (4) Koch-Weeks bacillus.

The original infection was thought to be a Koch-Weeks conjunctivitis, upon which was implanted a Klebs-Loeffler infection. An important finding was the streptococcus longus, which, some observers believe, can itself originate a membranous conjunctivitis. Death is ascribed to the toxemia induced by the conjunctival diphtheria.

The writer is of the opinion that conjunctival diphtheria is relatively frequent. Among three thousand cases of ocular disease encountered in two children's hospitals during five consecutive years, 1.26 per cent. were cases of conjunctival disease in which the Klebs-Loeffler bacillus was found. Only three out of a total of forty-three such cases conformed to the text-book description of conjunctival diphtheria. Two-thirds of all cases occurred in children under three years. The majority of cases occurred at the season of the year when the disease was particularly prevalent.

Forty per cent. of all cases were bodily ill. Temperature was often subnormal. The knee jerks were absent in a number of cases. Albuminuria was frequently observed. In seven cases a cutaneous diphtheria accompanied the ocular troubles, and in three cases diphtheria of the fauces was associated. The pre-auricular and angular glands were enlarged in the more severe cases. The cornea was involved in 33 per cent., this complication varying from mere haziness to ulceration. In the large majority of cases the infection was mixed. In 75 per cent. it was unilateral.

The text book description of diphtheria of the conjunctiva should be revised, as the disease is usually rather a mild affair.

Suggestions as to Post-Mydriatic Refraction Tests.—G. M. GOULD (*Annals of Ophthalm.*, July, 1904).—Although some of Dr. Gould's "Sixty-eight Reasons Why Glasses Failed to Give Relief" are a bit attenuated, there is no gainsaying the tremendous importance of carefully attending to apparently trivial details in the measurement of the refraction of the eye and the fitting of glasses. In this short paper the writer considers some of the reasons for the difference of refraction under cycloplegia, and that after the accommodation paralysis has passed off. These differences, as is well known, are occasionally marked, and may be contradictory. In accounting for them the writer would have us bear in mind the following points:

1. A *transient* cycloplegic (homatropin) probably gives results more nearly equal to those obtained without cycloplegia.
2. The drug should be instilled every seven minutes for one hour prior to the tests.

3. Tests should be made at the height of the physiologic effect of the drug.

4. The hyperemia caused by the drug may have some influence on corneal curves and the tension of the muscles.

5. As the inclination of the axis of vision is downward in all near work, the test card at twenty feet should be placed lower than the level of the eyes.

6. Change in the axis of an astigmatism may be induced by muscular tensions, which are presumably different for near and far.

7. The mechanism of accommodation being still imperfectly understood, it is possible that some factor connected therewith may be instrumental in causing the difference observed.

8. There exists a difference in refraction between the central and peripheral parts of the cornea.

9. Binocular fusion may change the axis of an astigmatism, as determined by the monocular test.

10. The selection of the axis of a cylinder should be made only with the head in the perfectly erect posture.

BOOK REVIEWS.

DIAGNOSTIK DER BAUCHGESCHWUELSTE, VON PROFESSOR DR. A. MARTIN in Greifswald, mit 26 Abbildungen im Text. Verlag von Ferdinand Enke in Stuttgart. 1903. Preis: Mk. 8.

This volume of 224 pages forms a part of the *Deutsche Chirurgie*, a work of gigantic dimensions, which covers the field of surgery in all its aspects.

The present volume begins with an enumeration and description of all the diagnostic aids at the disposal of the modern physician, such as inspection, palpation, percussion, auscultation, puncture and exploratory laparotomy. The special part deals with the diagnosis of tumefactions in the abdominal cavity, the various organs being considered separately. Necessarily the author could not limit himself to a study of the new growths, and thus much valuable information will be found concerning the diagnosis of inflammatory changes in the abdominal organs. As it may be expected in a work of this character special stress is laid upon differential diagnosis, and this feature probably will guarantee to Martin's book a most prominent position among works of a similar character. We do not know of a work in the English language which deals with the diagnosis of abdominal tumors in the same exhaustive manner.

OBSTETRIC AND GYNECOLOGIC NURSING. By EDWARD P. DAVIS, A. M., M. D., Professor of Obstetrics in the Jefferson Medical College and in the Philadelphia Polyclinic. 12 mo volume of 402 pages, fully illustrated. Second edition, thoroughly revised. Philadelphia, New York, London: W. B. Saunders & Company. 1904. Polished Buckram. \$1.75 net.

It is necessary for an obstetric nurse to possess some knowledge of natural pregnancy and of its consequent diseases; and as gynecologic nursing is really a branch of surgical nursing, special training and instruction are required to meet the conditions arising. This book just fills the need, everything that the obstetric and gynecologic nurse should know being included. The second edition shows evidence of having been carefully revised throughout, and considerable new matter has been added.

MODERN SURGERY—GENERAL AND OPERATIVE. By JOHN CHALMERS DA COSTA. Fourth edition; rewritten and enlarged, with 707 illustrations. W. B. Saunders & Company, Philadelphia.

One hardly recognizes in this excellent text-book the "Manual" which appeared a number of years back, still the author has followed closely his first general plan, but in the amplification has evolved a work which is as complete as, and much better classified than, most modern text-books. It is a readable, safe book for the student, and an aid to the practitioner, who will be pleased to find so much in such concise but authoritative form. It is modern in every sense, giving the most recent work in every instance.

ANATOMY. A Manual for Students and Practitioners. By HENRY E. HALE. Series edited by V. C. Pedersen. Illustrated with 71 engravings. (Medical Epitome Series.) Lea Brothers & Co. Phila. and N. Y.

The text is well written, accurate and concise, and yet full enough to give all essential details for the student.

THE OPHTHALMIC YEAR-BOOK. A Digest of the Literature of Ophthalmology with Index of Publications for the year 1903. By EDWARD JACKSON, A. M., M. D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic, etc., with 45 Illustrations. The Herriek Book and Stationery Company. Denver, Colorado. 1904.

The need of a year book of ophthalmology which shall give a succinct account of work published in the preceding year has long been felt by ophthalmic practitioners. The present volume although of moderate dimensions (260 pages), contains references to recent papers on ophthalmic topics of particular interest to ophthalmic specialists. Dr. Jackson has intentionally omitted reference to papers which merely aim to present to the profession at large well established facts. The work contains: (1) A critical digest of the more important new facts; (2) a list of original publications appearing during the year. The author does not pretend to approach the subject in the all-inclusive way of the German *Jahresbericht*, a publication the result of the combined efforts of a large number of collaborators, but he does give clearly and with sufficient fullness all that the specialist requires to enable him to judge what has been done in any given field during the year. Appended is a list of books, monographs and journal articles arranged alphabetically. The index is full and well arranged.

MODERN OPHTHALMOLOGY. A Practical Treatise on the Anatomy, Physiology and Diseases of the Eye. By JAMES MOORES BALL, M. D., Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons. With 417 Illustrations in the Text and Numerous Figures on 21 Colored Plates. Philadelphia: F. A. Davis Company. 1904.

The author states in the preface that his aim has been "to produce a work which shall teach and which shall be valuable alike to the medical student, to the general practitioner and to the specialist." In thus declining to limit his audience, the author has imposed upon himself a difficult, and, in the opinion of the reviewer, a well-nigh impossible task. From this point of view it should not be regarded as a disparagement of the merits of the work as a whole to say that the author has hardly succeeded in his ambitious design. We imagine that, of the three classes of auditors addressed the work will appeal more strongly to the general practitioner than to either the medical student or the specialist in ophthalmology. The medical student will prefer a more compact volume, which will introduce him to a working knowledge of the subject in as short a time as possible. The specialist, well acquainted with the mere facts of his subject, will demand rather more than the clear and well arranged exposition of the tenets of "modern" ophthalmology, such as Dr. Ball has presented. A text-book to be of value to him must breathe the author's personality and must shed an illumining beam upon his storehouse of facts. The author should possess the faculty of compelling his reader to view the subject from his particular personal standpoint. It is only thus that there results that intense vividness which lifts a personal contribution of the sort above the level of mediocrity.

It is precisely the personal note which is lacking in this otherwise excellent text-book. One cannot help feeling that the author has bestowed an immense amount of care in collating and arranging his material and the views expressed are in general sound and in accordance with accepted modern dicta.

The book is written in a style that is not altogether pleasing. There is a notable absence of variety in the structure of sentences, a defect, perhaps, unavoidable in the presentation of the dry facts of anatomy, but one which greatly detracts from the readability of the main body of the book. A series of sentences taken at random will show a curious and wearisome persistence in the use of "In" and "The" as the initial word. The total effect is lacking in fluency.

The work is beautifully and adequately illustrated. It is refreshing to find an author who scrupulously acknowledges the source of his illustrations, and it must be admitted that he has chosen with discrimination and taste. Many original drawings from dissections by the author are well executed. The colored plates, the handiwork of Miss Margaretta Washington, leave little to be desired.

THE TREATMENT OF FRACTURES, WITH NOTES UPON A FEW COMMON DISLOCATIONS. By CHARLES L. SCUDDER, M. D. Fourth edition. With 688 Illustrations. W. B. Saunders & Co.

The fact of a rapidly succeeding number of editions of a work is evidence enough of popularity, but this is not always an evidence of worth. In this instance the value of the book is the explanation of its popularity, as few books have met a want as well as Scudder's "Treatment of Fractures." It tells in a clear manner the methods of a large medical center which, while in a way provincial, is good because there are still places in this country where Boston methods have not been well enough learned. As a working guide it is excellent, and is doubly available in that the illustrations are most complete and not only amplify the text, but in many instances are sufficiently descriptive in themselves. There is added a new chapter on "Dislocations," which is good. It is hoped that the next editions will contain a larger section on this branch, which is not easily separated from fractures.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS, VOL. VII, PEDIATRICS. Edited by I. A. ABT, M. D. Orthopedic Surgery, edited by JOHN RIDLON, A. M., M. D., June, 1904. Chicago: The Year-Book Publishers.

Dr. Abt certainly deserves great credit for his careful and painstaking review of pediatric literature of the past year. The work has been done most thoroughly, and the value of the review is greatly increased by the critical remarks of the editor, which in and of themselves give evidence of a wide knowledge of the special literature of the subject. The volume is not only instructive but decidedly entertaining as well.

It is to be regretted that Dr. Ridlon's review of orthopedics has been so condensed. The work is fully up to the standard of the editor.

As a whole the volume is an excellent one, and one which we take pleasure in commending highly.

DERMATOLOGISCHE VORTRAEGE FÜR PRATIKER. S. JESSNER. Würzburg: A. Stuber's Verlag. 1904.

No. 5. Die innere Behandlung von Hautleiden. (Internal Treatment) Price: Mk. 0.75.

No. 9. Die Hautleiden Kleiner Kinder (2d Edit.). M. O. 90.

No. 13. Psoriasis. Price: Mk. 0.60.

Dr. Jessner's series of dermatological monographs has been received with the warmest commendation in Germany. The subjects are treated with the greatest clearness, and with remarkable thoroughness. Speaking with the voice of authority, Jessner gives a concise, but comprehensive account, of present day views of the subjects treated.

The monograph on the skin diseases of children is particularly valuable, giving the practitioner a wealth of information which cannot but be of great service. Dr. Jessner deserves the thanks of the profession for his work.

MEDICAL DIAGNOSIS. SPECIAL DIAGNOSIS OF INTERNAL MEDICINE. A Hand-Book for Physicians and Students. By DR. WILHELM V. LEUBE, Professor of Medicine and Physician-in-Chief to the Julius Hospital, Würzburg. Authorized Translation from the Sixth German Edition. Edited, with Annotations, by JULIUS L. SALINGER, M. D., late Assistant Professor of Clinical Medicine in the Jefferson Medical College, and Physician to the Philadelphia Hospital. D. Appleton & Co., New York. Pp. 1,058; Illustrated. 1904.

The importance of accurate diagnosis as the basis of rational therapy has never been more clearly recognized than at the present day. Leube's well known work has long been regarded as a standard text book in Germany, embodying, as it does, the results of enormous experience of one of the greatest clinicians of the present day. This is attested by the fact that it has gone through six editions in twelve years.

After a short introduction, pertaining to history taking and methods of examination, the diagnosis of disease, systemically classified, is taken up. The diseases of the circulatory, respiratory, abdominal, genito-urinary and nervous organs and systems, are discussed in detail. Then follow discussions of diseases of muscles, the constitutional diseases, and, finally, the infectious diseases. A noteworthy characteristic of this most valuable work, is the particularly careful consideration of differential diagnosis, set forth with the most admirable clearness and thoroughness.

Dr. Salinger has put the English speaking profession under great obligation for his careful and conscientious work. His translation, while at times too literal for perfection of idiomatic English style, reads easy and well and his editorial annotations are of value.

The book work is fully up to the standard of the publishers, except that the paucity of illustrations is somewhat striking.

Leube's work is sure to find in America the same warm welcome that has been accorded it in Germany, and is a most valuable addition to the list of works on that important branch of internal medicine, diagnosis.

DIE INTERNE BEHANDLUNG DES DARMVERSCHLUSSES MIT BESONDERER BERUECKSICHTIGUNG DER ATROPINBEHANDLUNG. VON DR. VON BOLTENSTERN. (Wurzburger Abhandlungen aus dem Gesamtgebiet der Praktischen Medizin.) Wurzburg: A. Stuber's Verlag (C. Kabitzsch). 1904.

This little pamphlet of 37 pages presents in an adequate and interesting manner the modern standpoint in the treatment of intestinal obstruction. He discusses briefly the etiology and the medicinal and physical treatment (opium, atropin, gastric lavage, high enemata, etc.) of this affection, but concludes that the proper procedure is early diagnosis and early operation.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By PROF. DR. CARL VON NOORDEN. Part V. Concerning the Effects of Saline Waters (Kissingen, Hamburg), on Metabolism. By PROFESSOR CARL VON NOORDEN and DR. CARL DAPPER. Pp. 92. New York: E. B. Treat & Co. 1904.

This publication is the second edition of a thesis that Dr. Carl Dapper published eight years ago from Prof. von Noorden's clinic. In view of the great interest that balneological methods of treatment are exciting nowadays, this little volume should meet with a general welcome. As a result of careful observations made, not only on healthy individuals, but chiefly upon those suffering from various nutritive and metabolic disorders, the authors come to certain definite conclusions. They find, for instance, that in gastric catarrh with subacidity, the use of saline mineral waters, such as those of Kissingen and Hamburg, leads to an active and permanent increase in the production of hydrochloric acid, whereas in hyperacidity, especially that on a nervous basis, the moderate use of the same waters leads to a diminished secretion of hydrochloric acid. The waters in no wise interfere with the digestion and absorption of any kind of food. Finally, they find that there is reason to believe that the saline mineral waters are of use in the treatment of uric acid retention (gout). The value of the book would be increased by the addition of an index.

MEDICAL SOCIETIES.

INTERNATIONAL CONGRESS OF ARTS AND SCIENCE—PROGRAM OF DEPARTMENT 17, MEDICINE—A DEPARTMENT OF DIVISION E.—UTILITARIAN SCIENCES—MEETING SEPTEMBER 19–25, 1904.
UNIVERSAL EXPOSITION, ST. LOUIS.

Chairman: Dr. William Osler, Johns Hopkins University.

Speakers: Dr. William T. Councilman, Harvard University; Dr. Frank Billings, Rush Medical College.

Section a. Public Health.

Chairman: Dr. Walter Wyman, Surgeon-General of the U. S. Marine Hospital Service.

Speakers: Professor William T. Sedgwick, Massachusetts Institute of Technology; Dr. Ernest J. Lederle, former Commissioner of Health, New York city.

Section b. Preventive Medicine.

Chairman: Dr. Joseph M. Mathews, President of the State Board of Health, Louisville, Kentucky.

Speakers: Professor Ronald Ross, F. R. S., School of Tropical Medicine, University College, Liverpool; Professor Angelo Celli, University of Rome.

Section c. Pathology.

Chairman: Professor Simon Flexner, Director of the Rockefeller Institute.

Speakers: Professor Felix Marchand, University of Leipzig; Professor Johannes Orth, University of Berlin.

Section d. Therapeutics and Pharmacology.

Chairman: Dr. Hobart A. Hare, Jefferson Medical College.

Speakers: Sir Lauder Brunton, F. R. S., London; Professor Mathias E. O. Liebreich, University of Berlin.

Section e. Internal Medicine.

Chairman: Professor Frederick C. Shattuck, Harvard University.

Speakers: Professor T. Clifford Albutt, F. R. S., University of Cambridge; Professor William S. Thayer, Johns Hopkins University.

Section f. Neurology.

Chairman: Professor Lewellys F. Barker, University of Chicago.

Speakers: Professor Shibasaburo Kitasato, University of Tokio; Prof. James J. Putnam, Harvard University.

Section g. Psychiatry.

Chairman: Dr. Edward Cowles, Boston.

Speakers: Professor Th. Ziehen, University of Berlin; Dr. Charles L. Dana, New York city.

Section h. Surgery.

Chairman: Professor Carl Beck, Post Graduate Medical School, New York.

Speakers: Professor Nicholas Seun, Rush Medical College, Chicago; Dr. Frederick S. Dennis, Cornell Medical College, New York city.

Section i. Gynecology.

Chairman: Professor Howard A. Kelly, Johns Hopkins University.

Speakers: Dr. L. Gustave Richelot, member of the Academy of Medicine, Paris; Professor John C. Webster, Rush Medical College, Chicago.

Section j. Ophthalmology.

Chairman: Dr. George C. Harlan, Philadelphia, Pa.

Speaker: Dr. Edward Jackson, Denver, Col.

Section k. Otology and Laryngology.

Chairman: Professor William C. Glasgow, Washington University, St. Louis.

Speakers: Sir Felix Semon, C. V. O., Physician Extraordinary to His Majesty, the King, London; Dr. J. Solis-Cohen, Jefferson Medical College.

Section l. Pediatrics.

Chairman: Professor Thomas M. Rotch, Harvard University.

Speakers: Professor Theodore Escherich, University of Vienna; Prof. Abraham Jacobi, Columbia University.

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ORIGINAL ARTICLES.

RECENT EXPERIENCES IN GASTRO-ENTEROSTOMY, WITH ESPECIAL REFERENCE TO THE VALUE OF DIS- CRIMINATION IN THE METHOD TO BE USED.

BY WILLARD BARTLETT, A. M., M. D., of St. Louis.

The title of this article suggested itself, upon reading recently that an operative mortality of no less than 48 per cent. had resulted from the performance of gastro-enterostomy for cancer at the hands of no less skilled an operator than Prof. Fedor Krause. A partial explanation at least, for this very high figure, (D. Maragliano, *Klinische und Pathologisch-Anatomische Erfahrungen auf dem Gebiete der Magen Chirurgie, Beiträge zur Klinischen Chirurgie*, Band xli, Heft 3), seems to lie in the choice of the technique employed. Twenty-nine such operations were performed upon patients, the most of whom are described as being markedly reduced in strength, but nevertheless a *suture* operation was done in every instance and in most of them a *suture* entero-enterostomy was added. The time consumed by such a procedure even in skilled hands, can but be a serious consideration, at least that has been my sad experience, as well as that of every surgeon whom I have had the privilege of observing. In benign cases it is quite another matter, there time does not count for nearly so much, and some such technique as that described above is universally considered to be excellent and quite in place, because better permanent gastric drainage is secured in these cases with a partially open pylorus. Prof. Krause is further committed to the policy of using no Murphy button or other mechanical contrivance in his stomach operations, but makes use of a suture method, no matter what the pathological condition, *i. e.*, no matter whether the patient be one of those pitiable subjects in whom a gastric cancer has progressed so far that radical operation is impossible, or whether he be still in the relatively good condition which is not incompatible with gastric ulcer.

The reasoning of Mayo, Ochsner and other American surgeons with regard to this matter, is as different from that above as is their mortality lower than that first quoted. They go so far as to formulate a rule which reads somewhat as follows: In cancer, anterior button or McGraw

ligature operation; in ulcer, posterior suture operation. In short, the idea is to get the cancer patient back into bed alive, and with a new opening, which though small (if button be used) will remain patent because nothing can escape at the pylorus; while in ulcer, time not being quite so precious, preference is given the kind of operation which will establish the best form of permanent gastric drainage.

In the eight consecutive cases reported herewith, operated upon in a little more than nine months, I violated the above formulated rule once, and have just one unfortunate result to tabulate: the lesson was to me so striking as to make me a firmer adherent to the rule and a warmer admirer of the men whose experience enabled them to give it to us for our guidance.

In an article like this one, in which the object is to prove the value of a certain operative technique, it is surely better to eliminate as far as possible the personal element which would surely enter if the operations of more than one surgeon were considered. The same line of reasoning has impelled me to select consecutive cases treated within a relatively short space of time (nine and one-half months), believing that my own attitude toward this problem can hardly have undergone much change in so short a time. When a surgeon attempts, on the other hand, to draw technical conclusions from work that covers several years, there is always the danger that the operative procedure in question may not stand wholly on its own merits, since the growing experience and manual dexterity of the operator are bound to cut so large a figure in the results.

For the sake of simplicity I have seen fit to mention only the leading characteristics in the histories of these eight cases, and have grouped them with reference to the pathological condition, rather than in their chronological order. The first four operations were done for malignant disease, the second four for benign disease.

Case 1.—Mrs. R., a middle-aged lady, had been suffering a little more than a year with stomach trouble which was accompanied by the classical symptoms of vomiting, loss of weight and appearance of a tumor in the right side. When she entered the hospital, the gastric motility was found to be greatly disturbed, the organ immensely dilated and displaced. The chemical findings were not absolutely conclusive, still a probable diagnosis of carcinoma ventriculi was made and an operation undertaken September 29, 1903. When the abdomen was opened, the following interesting picture presented itself: Corresponding to the location of the tumor above mentioned, there was seen surrounding the gall-bladder and adherent to it, a portion of the omentum, the transverse colon and the pylorus. There was no carcinoma of the pylorus, the stomach symptoms were accounted for merely by the traction upon and consequent displacement of that portion of the organ.

I removed the gall-bladder which proved to be carcinomatous, and then

finding it impossible to relieve the adhesion around the pylorus to my entire satisfaction, proceeded to do a gastro-enterostomy and supplementary entero-enterostomy. Here I made what I consider the very grave error of violating the rule formulated above by making the anterior operation with suture (two rows continuous); the supplementary operation being accomplished by introducing one-half of a Murphy button into each of the open intestinal loops and pressing the two together without a suture. The whole operation took one hour and a half for its performance, the patient never rallied from the shock and died about twelve hours later.

Nothing could better illustrate to my mind the evil of a long operation upon patients who happen to be the subjects of malignant disease of the abdominal viscera. I am as much opposed as anyone else can be to the principle of using mechanical contrivances where they can be avoided, but I prefer to use any possible method which enables me to get my patient over the operation, even though I may thereby expose him to certain remote dangers. The results of the three operations which follow will demonstrate the correctness of this reasoning.

Case 2.—The subject of this sketch was a lady almost eighty years of age, emaciated to the last degree, the victim of chronic obstruction; altogether about the worst subject imaginable for a trying surgical operation. The abdomen was immensely distended and attacks of vomiting which came on immediately after eating suggested that the obstruction was high in the alimentary tract. As a likely explanation of this chronic ileus, a tumor was noted just above the pubis, nearly as large as a man's fist, but somewhat sausage-shaped and freely movable. At the operation on October 2, 1903, this new growth was seen to be of the pylorus, it having descended of its own weight until the stomach had assumed an almost vertical position. The age of the woman and her low vitality militated against a radical operation, so a point low down on the anterior wall of the stomach was chosen and an anastomosis with the jejunum quickly made by Murphy button. Only sixteen minutes were consumed, there was no shock, hardly any discomfort afterward, never any vomiting; and this woman, in spite of her eighty years, and the fact that she had nearly starved in consequence of a cancerous pyloric obstruction, made an uneventful recovery. She was up on the sixth day after operation, taking a general diet soon after, and lived in comparative comfort, as far as the stomach was concerned, for seven months.

An interesting feature of this case is that the stomach, after drainage, resumed something like its normal size and position, the tumor gradually rising from the pelvis up to a location in the right hypochondrium in which it could be felt only with difficulty. I had used one of those expensive Murphy buttons, the two halves of which are of unequal size, still the circumstances that the much larger flange was in the jejunum,

did not prevent the whole contrivance from finding its way into the stomach, where it was demonstrated by the "x-ray," and where it remained without causing symptoms during the remainder of the patient's life.

Case 3.—An elderly man presented himself with all the typical signs and symptoms of a cancer of the pylorus, and none attributable to any other cause. He had been a well man till about a year previous, when digestive disturbances had appeared and increased in severity until the present. At the time my observation of him commenced he was greatly emaciated, had reduced his diet to a minimum on account of almost constant vomiting, there was a tumor the size of a hen's egg in the right hypochondrium, the stomach was displaced and dilated, no hydrochloric acid, but lactic acid in abundance, and, all told, the patient seemed to present about as clear a picture of pyloric obstruction due to carcinoma as one could desire to see. On April 23, 1904, he was operated upon and the diagnosis, *as far as has been stated*, verified in every particular. At the pylorus there was a new growth to which the transverse colon and pancreas were adherent, precluding radical operation. This much being established, it seemed good surgery, as I believe the reader will agree, to perform a gastro-enterostomy as rapidly as possible and get the patient back to bed. Having the two preceding cases in mind, I quickly did the anterior operation with a Murphy button, enjoying a most gratifying result. The patient sat on the edge of his bed on the second day, left the bed for good on the sixth day, was down in the hospital garden on the ninth day, and left the city for home, a distance of eighty miles, on the twelfth day. On the fourth day after the operation he wrote his relatives at home that he had not felt so well for six months, and was at this time taking a largely increased amount of fluid nourishment. Still he would continue to regurgitate a little now and then, while there was an annoying partial persistence of gastric symptoms which perplexed us at the hospital no little. We could not see why it was that a stomach which was draining properly should behave in this way, even though the pylorus were closed by a cancer. Things went on in this manner until almost four weeks after the operation, when I received a telegram stating that the patient was dead, his demise having occurred rather suddenly after two or three days of persistent vomiting, up to the commencement of which he was thought to be doing fairly well. With the permission to make an autopsy I gladly traveled the eighty miles and was rewarded by the following unique findings:

The gastro-enterostomy was mechanically perfect. Not an adhesion surrounded it, the opening being almost as large as a silver quarter, the two limbs of gut being of about the same caliber, the colon to the proximal side of the overhanging jejunum being slightly dilated. The stomach was shrunk considerably since the operation and retracted into the left hypochondrium (the button being found within it). The mass at

the pylorus, on the close inspection possible at an autopsy was seen not to have originated in the tissues of the pylorus, but to be intimately adherent to it and to have caused merely a mechanical obstruction. On opening the stomach the pyloric mucosa was seen to be intact, but the lumen closed by the pressure of the mass just referred to. To our intense astonishment, however, the entire cardia and a portion of the lesser curvature were seen to be the seat of a widespread new growth, which had ulcerated extensively into the lumen of the viscus. The mass at the pylorus, being evidently much the younger of the two, was surely metastatic in character, but by its mechanical presence caused the obstructive symptoms which drove the patient to seek relief through an operation. At the autopsy I was naturally embarrassed to note that I had overlooked the primary, though clearly inoperable trouble; still I trust it will be admitted that I did what was best for my patient when I did what I could to relieve the pyloric obstruction and refrained from searching for hidden pathological curiosities.

Case 1.—This presents some unusual features, though not with regard to the matter of diagnosis as has obtained in the three which have preceded it. The patient was a maiden lady of middle age who had suffered about sixteen months when she became the subject of surgical treatment. She now presented a considerable degree of emaciation; the diet was reduced to a minimum, she vomited almost everything she swallowed, and the gastric analysis was in every respect indicative of an obstructing carcinoma of the pylorus. In the right side of the abdomen was a tumor about the size of a man's fist that was so freely movable it could readily be pushed over into the left lumbar region without complaint being elicited from the patient thereby. The abdomen was not especially sensitive in any part, the muscles were soft, and altogether the peritoneum seemed free from involvement. But now witness the change during the few days of examination which preceded the operation: the abdomen suddenly became exquisitely tender to the touch, temperature and pulse rose slightly, and the tumor was found to have become immovably fixed in its position in the right abdomen. This all, no doubt, being due to the palpation to which the mass had been subjected, though all examinations had been made with the usual regard for a patient's comfort, and none had even seemed disagreeable to this one. It is a well known fact that careless palpation may lead to the dissemination of an inflammatory collection which has been sharply localized within the abdomen, but it cannot be very common for a localized adhesive peritonitis to be set up around an abdominal tumor, as a result of palpation. However, the accident is one which shall be kept within the range of possibilities in future examinations of this kind. On June 18, 1904, the abdomen was opened and the tumor found to involve the pylorus, as anticipated. The mass was covered with a thick layer of fibrin, and, in consequence, firmly adherent to the anterior wall and sur-

rounding viscera. A gastro-enterostomy was rapidly made with the Murphy button on the anterior surface of the stomach and the patient put to bed in good shape. She did well in every particular, but at the end of the first week the dressing was changed and the sutures removed, when, to our chagrin, the wound opened for a short distance to allow the escape of a considerable amount of dark thick pus from the depths; evidently the depths of the wound in the abdominal wall had become infected from the peritoneum, which has been referred to as being inflamed. A few days later a small amount of thin fluid faecal matter appeared in the wound, showing that the visceral union had been disturbed in much the same manner as had that in the structures composing the abdominal wall. In spite of these drawbacks the patient continued to improve, was soon sitting up and partaking of a general diet without inconvenience, though it must be admitted that this ideal state was not long maintained. She soon again began to lose strength as well as appetite, the lower extremities became oedematous, the fistula never closed entirely, and on the 20th of August she died. Although she survived the operation only a little more than two months, still she was at least rescued for a time from the pangs of slow starvation, and, according to her own statement, her condition rendered much more tolerable by the procedure.

The Murphy button was never passed, though there were never symptoms which could have been attributed to its presence.

Before leaving the consideration of these malignant cases it may not be amiss to recapitulate the especial points of interest which came up during the observation of them.

Patient No. 1 presented all the subjective and objective symptoms of pyloric carcinoma; still, at the operation, it was found that adhesions between a carcinomatous gall-bladder and the pylorus were responsible for the disturbance in gastric functions. The finding of a tumor is thus explained as is the circumstance that the chemical examination of the stomach contents did not reveal what would have been expected had this mass been an intrinsic neoplasm of the pylorus.

In the second case, the position of the pyloric tumor directly upon the pubic arch might have been regarded as a factor disturbing to diagnosis. It is interesting to note in this connection that it was not the weight of the tumor as much as that of the retained stomach contents that lead to such a displacement of the pylorus, since the performance of a gastro-enterostomy was immediately followed by the return of the organ to its natural position, though the size of the tumor was of course not much affected thereby.

In case No. 3 it was a secondary carcinomatous manifestation in the pyloric region which lead to a train of symptoms, every one of which is usually considered as being indicative of primary pyloric cancer, the original seat of disease being overlooked, both clinically and at the

operation. Such a combination of circumstances must be rare, to say the least.

It is worthy of note in connection with the fourth case, that an adhesive peritonitis was set up by the manipulation of a pyloric cancer, and that a movable tumor became absolutely fixed.

Case 5.—Mr. S., a robust looking individual of middle age, presented himself complaining that he had long been a sufferer from a painful affection of the upper abdomen, which had been diagnosed as gall stone disease, in another city, and an operation urged. During the past winter he had subsisted wholly upon fluids, since it was only through limiting his diet in this way that he could make existence tolerable. In spite of all care, however, there was often intense pain after taking nourishment, this being relieved occasionally by copious vomiting. He was a fleshy man, as has been mentioned, and a physical examination revealed little of moment. He had reached the point where he said that life was unbearable in his present condition, so an operation, primarily explorative in character, was undertaken. An examination of the biliary passages and the gall bladder was negative, but upon the anterior surface of the stomach, near the pylorus as well as upon the anterior aspect of the duodenum, were several scars indicating the sites of gastric and duodenal ulcers. A posterior Mayo-Moynihan gastro-enterostomy was made and the patient placed in bed in good shape. A very large opening was made, two rows of continuous sutures being used, but no supplementary entero-enterostomy made. The after-results of the procedure could not have been better; the patient received fluid nourishment as soon as he desired it, complained no more of pain, eat beef-steak and ice cream on the eighth day, was up on the twelfth day and took a four hundred-mile journey on the fourteenth day. His operation was done March 5, 1904; I heard from him six months later, at which time he was eating everything without discomfort, taking sole care of his extensive business interests, and reported himself as being in every way a well and contented man.

Case 6 is one of rather especial interest, since the patient, a woman of middle age, was not only afflicted by a gastric ulcer, but was the subject of gastric tetany in its most outspoken form. The diagnosis in this instance was extremely easy, there being the so-called characteristic symptoms of excess hydrochloric acid, gastric hemorrhages expressed both in stool and vomitus, pain, eructation, tenderness, etc. This patient, in addition to her exquisite tetany, gave the further characteristic history of having been "cured" several times by medical means. When I first saw her she was considerably emaciated and totally unfitted for her occupation of housekeeper. She was living almost solely, as she said, upon fluids, and preferred the pangs of starvation to those which were provoked by her attempts to take food. I operated upon her May 28th; multiple ulcers were located by their scars upon the peritoneal

covering of the stomach; a Mayo-Moynihan gastro-enterostomy, without supplementary anastomosis, was made, and the patient taken to the ward without any evidence of shock. She never vomited or had a single tetanic seizure after the operation, though there was some gastric pain during the first week. After this she eat everything, gained rapidly in weight, and when I last saw her, about two months after the operation, she stated that she was well in every respect, and, as I afterward learned, was strong enough soon after to take up once more her duties as housekeeper in a family.

Case 7.—The patient was a young man who had been a sufferer from disturbances in digestion for about six years. So great had been the pain from taking food into the stomach that he welcomed any kind of surgical procedure that promised relief, saying that he preferred to risk any danger than remain as he was. In his case, again, all the manifestations, subjective, chemical and physical, spoke for gastric ulcer. At the operation, June 30th, his stomach was found somewhat displaced as well as distended, while on the posterior surface near the pylorus were found adhesions obliterating that part of the lesser peritoneal cavity and marking the site of a gastric ulcer. The Mayo-Moynihan gastro-enterostomy was quickly made, and while the jegenum was open the two halves of a Murphy button were inserted, one into each limb of the attached loop, and the two then pressed together without a suture, thus short circuiting the contents. This operation, consisting of a gastro-enterostomy made with two rows of sutures, an entero-enterostomy made with the button and an abdominal closure in four rows, required exactly forty minutes for its consummation. The young man was absolutely free from pain in a few days after the operation, eat everything within two weeks without discomfort and went home in less than three weeks. Unfortunately, nothing has been heard from the button in this case, though care was taken to introduce the heavy end into the distal bowel.

Three months after the operation he informed me by letter as follows: "I am eating and sleeping well; there are times when I have some pain, but these are getting of less frequency and of less intensity all the time; in fact, for the last week I have been almost free from pain." At this time he had gained more than twenty pounds.

Case 8.—A woman of middle age, gave a history of years of gastric disturbance. She said that it had been very severe for months at a time, and that she had then experienced periods of relief as a result of medical treatment, a statement suspicious in itself of ulcer. I was not surprised to learn from her further statements that the malady had been especially severe for the past few months, that she had a good appetite, but suffered especially from severe pain after eating, that vomiting alone relieved her, that vomiting of blood was common with her and that she was the subject of gastric tetany. She welcomed anything that might give her relief from the pain, which she said was so severe as to

prevent her from indulging a good appetite; so, on July 18th, she was operated upon. The same procedure as in the last case was adopted, namely, the posterior suture gastro-enterostomy was made, together with a supplementary entero-enterostomy with the Murphy button. She complained of severe pain in the stomach for some three days after the operation and vomited twice, but was up for an hour on the fifth day and passed her button on the seventh day. During the second week she ate everything without discomfort, and in the third week was strong enough to help about the heavy work in the hospital wards. She went home six weeks after the operation in the best of condition, though it must be admitted that she had experienced some gastric discomfort while at work in the wards, as referred to above.

In the discussion of these eight cases, I purposely avoid a discussion of the value of a gastro-enterostomy as opposed to some other form of surgical procedure. The malignant cases were none of them amenable to resection, consequently they were subjects for gastro-enterostomy only; of course, the benign cases might have been well treated by some form of plastic operation on the pylorus (Finney, for example); all I desire to prove in this connection is that *a certain form* of gastro-enterostomy is most applicable to these cases if a gastro-enterostomy is done at all.

All of these cases, except the last, were operated upon at St. Anthony's Hospital.

It has been a routine practice to get the patients up early after operation, especially those affected by malignant disease. As W. J. Mayo recently brought out in this connection, many of these patients will never get up again, if they be not allowed to do so in a few days after the operation. I allowed one of mine to sit up on the edge of his bed for a short time on the second day, another to be out in a chair on the fifth day, while a third spent a good part of the sixth day in sitting up; with a good result in each case.

As to the value of the Murphy button in these malignant cases; I had three successes where I used it and one failure where I did a protracted suture operation, though this last named patient was in better physical condition than any of the others when the operation commenced; that is argument enough for me. Give me "a bird in the hand instead of two in the bush;" it surely seems better to use an appliance which will enable one to get the patient into bed with life enough left to tide him over the critical period, even though he may thereby be exposed to certain secondary dangers. The low anterior operation is quickly made with the button, the edges of the visceral wound are held apart and the patient can be nourished as soon as he wakes, "circulus vitiosus" can hardly follow its use, hence a supplementary opening between the two portions of the gut loop is not necessary. I do not use the McGraw elastic ligature in these cases because it does not permit of the very early feed-

ing in which I indulge my patients; a matter of no little importance when it is considered that we are dealing with a surgical shock in a starving individual. Highly as I value the button, I am not blind to the fact that drawbacks and dangers attend its use; of these I have seen but one, however, viz., my buttons rarely come back. In these eight cases, five buttons have been used, three in making the gastro-enterostomy and two in making the entero-enterostomy; the only one which ever returned was one of the two last mentioned.

The operation which I have done on the benign subjects is essentially that described by Moynihan (*The Practitioner*, February, 1904), in which a double continuous suture unites portions of the stomach and gut which are cut off from the rest of the viscera during the operation by rubber covered clamps. The posterior operation is made because it affords the best drainage, and suture is preferred to button because by this means a much larger opening can be made; a necessity when we reflect that gastric drainage is frequently followed by the healing of a pyloric ulcer, relaxation and opening of a spasmodically closed pylorus and growing up of the new opening if it be not made very large. This might all be very well if there were not then a decided tendency for the ulcer to recur. The Mayo brothers do not employ the horizontal stomach incision of Moynihan, but prefer to make a diagonal opening which runs in a line drawn from the cardia to the greater curvature, the viscus being opened as low as possible; hence I have called the combination a Mayo-Moynihan operation. The Mayo idea was originally that bile would be prevented from running into the stomach by anchoring the proximal portion of the jejunum high up on the stomach, but C. H. Mayo told me recently that they had seen three cases of regurgitation in about sixty of these operations, and that they are now making a supplementary opening with the button as I have done in the last two of my cases. I may add that my first two benign cases did just as well after operation as did those in which the entero-enterostomy was made, no sign of a "vicious circle" appeared in any of my patients benign or malignant. All anterior operations were made in front of the colon and all posterior operations behind it.

The time required for the performance of an abdominal operation is, in my opinion, a vital factor, hence I reserve the last word for a consideration of this matter. Of course the benign patients have usually much more resistance than the malignant, but still I am particular to keep the work within reasonable limits even for them. It takes me forty minutes to open the abdomen, make the necessary examinations, do the posterior suture gastro-enterostomy with button entero-enterostomy, and close the abdomen in four layers. This refers to the average patient with whom the utmost pains can be taken, of course, I should simplify and shorten the procedure if necessary.

With a patient the subject of malignant disease, the whole matter is

different, here speed is of vital importance; the simplest procedures possible with merely enough ether for the skin incision, must be the order of the day. I remember that one such operation required just sixteen minutes from the incision to the last stitch, but I am sure one can be done more quickly than this where no complications are encountered.

THE TREATMENT OF CHRONIC NON-SUPPURATIVE OTITIS MEDIA.

BY M. A. GOLDSTEIN, M. D., of St. Louis, Mo.

In order that a comprehensive outline in the therapy of chronic non-suppurative otitis media may be presented, an empirical subdivision of its stages and development may be offered as follows:

1. *The Early Stage of Hypertrophic Catarrhal Otitis Media.*
2. *Advance Stage of Hypertrophic Catarrhal Otitis Media.*
3. *Sclerosis and Rarefaction of the Bony Capsule of the Labyrinth.*

This arbitrary grouping affords us a means of considering measures for relief in the order of their importance and effectiveness. In this most common and intractable form of deafness, it is well to state that the earlier in the stage of the affection treatment is begun, the more prompt and effective will be the results. Much depends on a very careful diagnosis and differentiation of the form and stage of the disease in order that properly selected treatment may be conducted. It is not sufficient simply to establish the fact that the patient has a chronic middle ear catarrh, but to consider every factor which may contribute pathologically and mechanically to the affection. Thus for example, it would be useless to employ repeated Politzeration of an affected ear if there was complete occlusion of the Eustachian tube, either of its pharyngeal orifice or at the isthmus tubæ; it would be also contra-indicated to continue any line of treatment whether inflation, catheterization, intra-tympanic injection, the use of the bougie and the several forms of massage, if it can be distinctly demonstrated that frequent application of such treatment aggravates the case by increasing the deafness, intensifying the tinnitus and accentuating the vertigo. Each case, therefore, after careful examination, must have its course of treatment planned to best cope with the factors responsible for the affection.

1. *Early Stage of Hypertrophic Catarrhal Otitis Media.* As the nose and naso-pharynx constitute the keystone in the pathology of this form of chronic catarrhal otitis media, our most careful attention should be given to the treatment of this area. The engorged, turgescient, and later, hypertrophied mucosa of this tract, is intimately associated with similar manifestations in the mucosa of the tympanic cavity and Eustachian tube. When this turgescence is sufficiently marked to materially dimin-

ish or entirely obstruct the lumen of the tubal canal, marked retraction of the membrana tympani ensues. If this retraction continues, and a plastic exudate is thrown out from the engorged mucosa, the foundation for the formation of adhesions and ossicular ankylosis is laid.

Our first step, therefore, is to treat the turgescient mucosa. For this, no remedy at our command has proven as effective as adrenalin. Even though the contraction of tissue by the use of adrenalin chloride is temporary, it gives us the necessary opportunity to thoroughly inflate the middle ear; and the increase in the caliber of the tubal canal allows the exudate in the cavum tympanum to thoroughly drain. A recent retraction of the membrana tympani will usually yield to a few inflations of the tympanum either by Politzer bag or catheter. In each instance where inflation is used, the membrana tympani should be carefully inspected at every sitting, before and after inflation; and each change in the hearing distance of the affected ear and the plane of the membrana tympani carefully noted. When exudation is profuse in the tympanic cavity and is not readily drained in this simple way, incision of the membrana tympani may be required. The alkaline nasal spray and saline post nasal irrigation are sometimes effective in toning down the turgescient mucosa. I discourage the use of the nasal douche not only by the patient, but by the physician because of the possibility of unintentionally forcing the washing fluids and mucus into the tubal tract. Astringent applications are often of value in preventing recurrence of turgescence. Silver nitrate (forty grains to the ounce) applied by cotton applicator through the nose to the naso-pharyngeal mouth of the Eustachian tube, often has a beneficial effect. Recently, silver salts, which are less irritating and of better penetrating qualities, have been well endorsed as a substitute for the more irritating silver nitrate. Of these I have used protargol in from ten to twenty per cent. watery solutions, with good effect. The nebulizers and vapor treatment have their enthusiastic advocates. These vapors are used in connection either with the Politzer bag, catheter or mechanical vibrator, and the mucosa of the middle ear tract is thus brought in contact with the nebulized medicament. Campho-menthol, so long and favorably mentioned by Bishop, is generally used in five to ten per cent. solution, in hydrocarbon oil. I have always been an enthusiastic advocate of the hot unguentum petrolatum spray, used in this class of cases with a five per cent. campho-menthol solution, and rendered slightly astringent by a drop or two of *ol. gerani rosæ*. My usual treatment, therefore, consists:

(a) Applying a solution of adrenalin chloride (1-1000) by means of cotton applicator.

(b) Inflating Eustachian tube and tympanic cavity by Politzer bag, catheter or nebulizer.

(c) Swabbing the pharyngeal orifice of Eustachian tube and the tur-

gescent mucosa of the nasal tract daily or on alternate days, with an aqueous five to ten per cent. solution of protargol.

(d) Spraying the nasal cavity anteriorly and post nasally with hot campho-menthol vaseline.

(e) To facilitate absorption of exudate in the tympanic cavity and to restore the membrana tympani to its normal plane, I use aural massage of very mild character, and preferably by hand masseur.

Massage in this class of cases should not be continuous in character, but should be of about one-half minute in duration and should consist mechanically, of gentle suction to aid the newly aerated tympanic cavity to restore the membrana tympani to its normal plane. The long-continued massage, with rapid stroke of piston and frequent congestion of cavum tympanum, is here contraindicated.

When this middle ear process is associated with a more advanced nasal pathology, and when hypertrophied turbinals interfere either with proper nasal respiration or with aeration of the Eustachian canal, surgical intervention is called for. Septal deflections or projections and neoplasms obstructing the nasal passages, hypertrophied faucial or pharyngeal tonsils should all receive proper attention and should be removed early in the course of the treatment.

As diathesis is often an important factor in the etiology of chronic catarrhal otitis media, the general condition of the patient should be given careful consideration. Rheumatism, syphilis, tuberculosis, whether acquired or hereditary, have a frequent bearing on these cases, and tonics, alteratives or other systemic medications are often indicated. It may be necessary to advise change of employment for these patients, as certain occupations especially predispose to the development of these catarrhal affections. This is very marked among railroad employes and artisans who work in irritating atmospheres, such as millers, sawyers, grinders, etc. It is also interesting to note another class among who may be mentioned bakers, moulders, stokers, etc., whose nasal and aural mucosa is affected by sudden thermal changes.

I have mentioned some of these data not because they form a part of the systematic line of treatment prescribed for the bulk of these cases, but to emphasize the importance of the general treatment of the case and the necessity for removing some of the remote causes of this affection.

If treatment is begun promptly, and if both the local and general conditions are given careful attention, the prognosis in this early stage of chronic catarrhal otitis media is always favorable.

2. *Advanced Stage of Chronic Catarrhal Otitis Media.*—Under this subdivision we include long-standing plastic exudations and adhesions in the tympanic cavity, retraction in the membrana tympani and fixation of ossicles. In this advanced stage of catarrhal processes, hypertrophic changes have usually taken place both in the nasal passages and in the

tubal and tympanic areas. The turbinal tissues obstruct the calibre of the nares; the hypertrophied mucosa reduces the lumen of the Eustachian canal; the plastic exudate, partially dried, binds down the membrana tympani and ossicles. These are the pathological results in this stage of chronic aural catarrh, and are the problems which confront us and to which we direct our mechanical and therapeutic measures. Inflation is an important consideration; the Politzer bag and catheter were the sheet anchor of the aurist several decades ago, before the introduction of the many forms of aural massage and other devices to attack the membrana tympani and ossicles from without. It is rational to assume that no matter what means may be employed to loosen adhesions either of the ossicles or membrana tympani, permanent improvement cannot be obtained unless the exciting cause, *i. e.*, the thickened mucosa of the nasal, post-nasal or Eustachian tract is successfully dealt with. Inflation should be regularly practiced either daily or on alternate days, for a period of five or six weeks if necessary. Where the use of the catheter indicates that the lumen of the Eustachian tube has been impaired, excellent results may frequently be obtained by the occasional introduction of the whalebone bougie. From my own experience and observations, I would conclude that the Eustachian bougie is of inestimable value in the treatment of this class of cases, not only where there is a decided stricture of the Eustachian tube, but also where the lumen of the tubal canal indicates a much diminished diameter. The bougie in this class of cases should be used systematically and regularly. A bougie of properly selected diameter should be passed the full length of the Eustachian tube, and left in position for a time varying from one to ten minutes. If the patient complains of continued pain while the bougie is in position, it should be immediately withdrawn. The first application of the bougie is usually the most uncomfortable to the patient. When the bougie is withdrawn, and if there are no contra-indications, thorough inflation of the tympanic cavity should follow.

Repeat the introduction of the bougie about twice each week unless unfavorable reaction is noticed. Unless the patient cannot tolerate it, the next larger size bougie may be used, and this plan may be continued and the tubal canal subjected to a gradual dilatation until the diameter of the affected tube is slightly larger than the lumen of the average normal Eustachian tube.

Of the contra-indications for the continued use of the bougie, perhaps the most frequent are a feeling of fullness and dullness in the ear, and an increase in the subjective symptoms.

Of course, the main element of value in the use of the bougie is a mechanical one, and the improvement noticed after its application is due to a clearing and dilatation of the Eustachian tube. The massage of the mucosa and musculature of the Eustachian tube and its stimulating

effect both on the circulation and on the peripheral nerve endings, in loco and reflex, is another valuable factor.

As to the gold electrolytic bougie, I believe the addition of the mild galvanic current with its stimulating effect on the mucous membrane, nerves and muscles of the Eustachian tube enhances the value of the bougie; but as to its mechanical and electrolytic results, I am not so sanguine, and can see no advantage from it over that to be derived from an intelligent use of the whalebone bougie.

The most interesting development in the mechanical treatment of chronic middle ear catarrh has undoubtedly been the introduction of massage of the drum membrane and ossicles in its manifold forms. Beginning with the Siegle otoscope and Delstanche masseur, there has been an interesting evolution to the present complicated electric aural massage pump, and the creditable efforts of Jackson, Ostmann, Pyncheon and others have received due appreciation. Lucæ claims a radical modification in massage treatment by the use of his cleverly constructed pressure probe, whereby the ossicular chain is brought directly into action along its physiological axis.

It is scarcely the province of this paper to discuss the many details of the several forms of massage technique and their advantages and disadvantages. Suffice it to say as far as my own experience is concerned, that I have not been able to ascertain better results from the use of the several complicated machine masseurs than by the use of the simple hand piston pump and pneumatic speculum. Adhesions which are so firm and tough that they will not yield to the hand masseur, are usually not benefited by any other or more complicated machinery, and require perhaps more radical treatment. Recent fixation of the ossicles and slight adhesions may be broken up by repeated massage either with a hand masseur or with the electric massage pump; long-standing adhesions often resist every form of mechanical massage. Of the operative treatment which may be favorably considered in these cases, tenotomy and intra-tympanic severing of such adhesions is the only one which has partly stood the test of time. Excision of the ossicles in ankylosis has been frequently advocated, but the favorably reported results have been temporary, as new cicatrization and fixation generally follows in the wake of such technique. Of the medications to the aural tract to which I have shown partiality in this class of cases, I would especially mention a 10 per cent. solution of campho-menthol in benzoïnol, a few drops of which may be injected through the Eustachian catheter and forced by compressed air into the tympanic cavity. I have also used iodine, carbolic acid and glycerine in a similar manner. In fact, I have endeavored to treat the mucosa of the tympanum and Eustachian tube in about the same way I would treat the mucosa of the nares, the only difference being the difficulty in making applications direct to these affected areas.

Internal therapeutics in this stage are of but little value, Climatic conditions often materially influence the progress of chronic middle ear catarrh. The prognosis depends on the degree of deafness and on the ability of the individual case to respond to well-planned systematic treatment.

3. *Oto-Sclerosis*.—In a definitely diagnosed case of oto-sclerosis, it is well to advise the patient that our progressive science and research has thus far been unable to suggest a beneficial form of treatment. Too much emphasis cannot be laid on the necessity of a careful differentiation between the hypertrophic and the sclerotic forms of otitis media chronica catarrhalis.

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SYNOPSIS OF PAPERS.

HISTORY OF PEDIATRICS—ITS RELATION TO OTHER SPECIALTIES.

BY DR. A. JACOBI, of New York.

Before 1769 there was no institution specially provided for sick children, but in that year Dr. G. Armstrong established a dispensary in London. In 1784 a similar institution was founded in Vienna by Dr. Marstaller. The first and largest child's hospital in Europe, the Hospital des Enfants' Malades, was founded in 1802. In St. Petersburg the Nicolai Hospital was established in 1834 by Dr. Friedburg, and in 1839 the Poor Children's Hospital in Buda Pesth, by Dr. Schopf Merei. Since that time the increasing interest in the diseases of children on the part of humanitarians and physicians and teachers has multiplied children's hospitals. The United States was the last country to participate in these endeavors. The mostly proprietary medical schools did not find pediatric teaching to their advantage, and it took a long time to open the hearts and the purses of the public. The waves of humanitarianism and the demands of science finally overcame previous indolence, and many general hospitals gradually opened special children's wards, while there are pediatric hospitals in all the larger cities. Practical teaching was not extensive, and it took the medical faculties, even of universities, a long time to appreciate the necessity of special and well-regulated bedside teaching. At the present time, however, there is hardly a great medical school that does not give amphitheater or bedside instruction, either in the children's ward of a general hospital or in a special children's or babies' hospital.

The connection of pediatrics with obstetrical practice is very intimate. At the present day still 3 per cent. of all the mature, living fœtuses are not born into post-natal life. To reduce the mortality to that figure, it had taken an increase of knowledge in the art of obstetrics to such an extent that it had become possible by means of Cæsarian section to save the fœtus not only of a living but also of a dead mother, for the fœtus may survive the dying woman. Not a few are born asphyxiated on account of interrupted circulation or of compression of the impacted head or meningeal hemorrhage, which destroys many babies in the first week of life. And those who are not so taken away live only to become paralytic, idiotic or epileptic. Modern obstetrics has greatly reduced the number of such unfortunate sequelæ of labor. Otology is a spe-

cialty which is confined to a large extent to children. The newly-born exhibit changes in the middle ear which are variously attributed to the presence of epithelial detritus, to aspiration of foreign material or to an edema occasioned by the separation of formerly adjacent mucous surfaces. Pus is found in the middle ear of 75 per cent. of still-born or dead nurslings. Many of the newly-born that die from unexplained fevers perish from septic material, or its toxins, absorbed in the middle ear or in the intestines. The great vascularity of the middle ear and the accessibility of the Eustachian tube in the infant renders otitis media very frequent. Difficult hearing is very frequent in the young. As early as 1886 Berzold found that of 1,900 children, 25 per cent. had only one-third of normal hearing. Whether deaf mutism is the result of consanguineous marriage cannot be definitely asserted. The majority of cases are caused by cerebral or cerebrospinal inflammation. Many of the congenital and most of the acquired case are preventable.

In dermatology some of the problems should be studied on ante-natal and post-natal lines. The congenital absence of small or large parts of the skin is probably due to certain amniotic adhesions, seborrhœa and the mild form of lichen to rapid development in the second half of intrauterine life of the sebaceous follicles. In pemphigus of the palms and soles syphilis was recognized, in eczema constitutional disturbances of the nutrition was the underlying cause. A dermatologist who does not know embryology or pedology, or a pediatricist who does not know dermatology is anything but a competent and trustworthy medical practitioner. The diseases of the muscles interest the pediatricist, the surgical specialist, the orthopedist and the neurologist to an equal extent. Torticollis proves that neither the pediatricist nor the orthopedist nor the general surgeon could raise the claim of ownership.

The relation of pediatrics to forensic medicine is very close. Unexpected death of the newly-born and the causes of sudden death in all periods of life have been studied to such an extent as to render negative results of police investigation and of autopsy reports less numerous from year to year. In London there were annually 8,000 inquests; one of every fourteen of this number was on an over-lain infant. In the etiology of sudden death the most difficult questions could not be solved except for the valuable observations that have been made on the young. Forensic medicine has to guard the interests of all, and there is nothing in medicine more difficult than to discover the cause of death. The best knowledge of the advanced practitioner, of the pathologist, the chemist, the bacteriologist and the obstetrician should be at the service of the public. Every European country understood this, and acted upon that knowledge. In this country only Massachusetts has broken away from the coroner's institution, which was a fit authority for a backwoods municipality, but is no longer for a cultured people of eighty millions.

Now and then even an expert or a body of experts does not succeed in discovering the cause of death. What should be said of a system which now and then does discover the hidden cause of a sudden death? When the New York state legislature, half a year ago, passed a bill abolishing the no longer competent office of coroner it was vetoed by the mayor for the reason that the new law was not perfect. It was not pronounced perfect—no law ever was perfect—but the absurd incompetency and anachronism of the coroner's office was perfect.

One of the most important questions which concerns at the same time the practical statesman, the humanitarian and the pediatricist is that of excessive mortality of the young. Forty per cent. of infants who die before the end of the first year die in the first month of life. This is to a great extent preventable. Statistics from large obstetrical institutions prove that only 50 per cent. of women are capable of nursing their offspring for even a few weeks. What, then, could be said of the refusal of the physically perfect and well situated women to nurse their infants? There are not "400," but 400,000 who prefer their ease to their duty, their social functions to their maternal obligations, who hire strangers to nurse their babies, or accept the claims of the infant food manufacturers, or are tempted by their own physicians to believe that cow's milk casein and cow's milk fat can be changed into woman's casein and fat; that the live stomach is like a dead laboratory bottle, that the warmth of the human bosom and that of a nursing flask are identical and that cow's milk, when it carries the trade mark "Certified" or "Modified," is just as good as mother's milk. The nursing question is a social and economic one, which, like so many other problems, confronts modern civilization. Modern therapeutics, both hygienic and medicinal, have gained much by the close observation of what is permitted, or indicated or required in early age. One of the main problems in infant therapeutics is to fight anemia, which is a constant danger in the diseases of the young.

The advantages of electricity as a remedy have been realized by obstetricians, pediatricists and general practitioners. There is no more powerful remedy for asphyxia and atelectasis of the lungs than the cautious use of the interrupted galvanic current.

The domain of preventive therapeutics has expanded with the increased knowledge of the cause of disease and both immunizing and curative sera will play a more beneficent part from year to year. Among the probabilities of future therapeutical efforts may be counted the prevention of congenital malformations. Knowledge of the physiology and pathology of the nervous system of all ages would be defective without the lessons derived from the foetus and infants.

The young are the makers and the owners of the future, and their physical, intellectual and moral condition will decide whether the globe shall be more criminal or more righteous. For their education, train-

ing and capabilities the pediatricist, as the representative of medical science and art, should become responsible. Medicine is concerned with the new individual before he is born, while he is being born and after. Heredity and the health of the pregnant mother are the physician's concern. The regulation of factory legislation and the prohibition of marriage of epileptics, syphilitics and criminals must be considered the preventive measures to secure a promising progeny. The physician should be the legitimate advisor to the judge and the jury, and a seat for him in the councils of the republic is what the people should demand as their right.

PSYCHIATRY—ITS RELATION TO OTHER SCIENCES.

BY DR. C. L. DANA, of New York.

The branch to which the psychiatrist turns in allied sciences with expectation of help and co-operation is, first of all, clinical medicine and clinical pathology and physiological chemistry. They enable him to make complete records and to secure the profoundest knowledge of all the types of alienation which come under his observation. As an assistance in such work, a sound knowledge of the elementary principles of psychology is needed. Psychiatry expects but little from gross pathological anatomy, a great deal, however, from what might be termed teratological anatomy, or a study of congenitally defective conditions not only of the nervous system, but of the circulatory and secretory organs. And here, again, clinical microscopical pathology and chemistry must be associated with the work. Psychiatry is a practical science. It deals with the administration and custodial care of the patients, and expects help from the various sciences included under the head of state medicine and economics, which work for good government and the improvement of the social conditions of a nation. Since psychiatry, like all medical sciences, concerns itself with prevention of disease as well as care and cure, it looks for help to those same sources in procuring the prevention of insanity. Therefore, help is expected from the education of the children and of the people as to wise methods of living, and especially of marrying, to offset or at least reduce the detrimental effects of urban life, of the use of alcohol and the spread of venereal disease. In the further development of psychiatry, help is expected from anthropology and allied sciences, and intimate relations to law and forensic medicine should continually be held. By these means it can be hoped that finally psychiatry will reach that degree of perfection when the increase of the insane will be reduced one-half. Then it might be expected that all the insane patients could be earlier recognized as such and promptly and more effectively treated, so that the percentage of cures would be at least one-third higher. The psychiatrist could then

recognize the type of the disease and outline the proper treatment as well as give a rather definite prognosis.

The insane who are acutely or curably ill can be properly treated in suitable, easily accessible hospitals, and more serious cases placed in larger and more remotely accessible institutions or private houses, while the hopelessly insane should be cared for in colonies. There is no more precious thing in a social organization than a sound mind, and no more serious hindrance to social progress than a defective one. It is to be hoped that all the sciences which by any means could contribute to interpreting the phenomena of mental disease, to checking its prevalence and to palliate or cure the suffering of the victims would feel a special inspiration to secure these ends.

THE HISTORY OF THE DEVELOPMENT OF SURGERY.

BY DR. FREDERIC S. DENNIS, F. R. C. S., of New York.

The history of surgery during the last hundred years furnishes one of the most remarkable chapters in the progress of science. But little more than one hundred years ago there were enacted scenes in the name of surgery that were more terrible than any of the tragedies of the Inquisition. The influence that had the greatest effect on the development of surgery was the discovery of anesthetics. Then came the discovery of the value of antiseptics. Nobody could measure the influence that this discovery had in the decrease of human suffering. The third great power in the development of surgery was the discovery of modern therapeutics and diagnostic aids. The discovery of the Roentgen ray ranks second only to the discovery of anesthetics and antiseptics. The value of the x-ray in the treatment of disease is equal to its value as a diagnostic agent. The fourth influence of great importance was the development of old and the discovery of new operations in surgery, such as trephining, suturing wounds of the heart, operations for gastric ulcer and gastric cancer, operations for umbilical hernia, for the relief of appendicitis, for the relief of intestinal obstruction, laparotomies for typhoid perforation, etc.

A most important discovery was the operation of ovariectomy, by McDowell, of Kentucky. It was the foundation for the abdominal surgery of today. There was much disapproval of the operation by the profession and the laity, and inasmuch as McDowell's first patient died, he was pointed out as a murderer. But from a mortality of 100 per cent. it has developed until a series of ninety-three cases have been reported without a single death. In the treatment of compound fractures, the mortality has dropped from 68 per cent. to 1.7 of 1 per cent. The progress of surgery has been uninterrupted. In other arts and sciences something had been lost during the centuries, but in surgery it was en-

tirely different. It was so completely a modern science that it did not rely upon anything in the distant past. There is no surgical disease in which the mortality has not been reduced. Nowhere has greater changes been wrought or more brilliant results accomplished. There is but little opportunity for improvement in the field of therapeutics and anesthesia, and but few operations for the surgeons of the future to discover. It is a profession that but a hundred years ago was crude and unprogressive. The greatest discoveries have been made by Americans, and an answer to the question, what has been the inspiring motive, is to be sought in the habits of the people. Within the past decade America, through the force of her national greatness, morally, intellectually and physically, had come to rank second to none among the powers of the world, and her surgery has kept pace with her progress in other lines.

THE PROGRESS IN MEDICINE DURING THE PAST CENTURY.

BY PROF. WILLIAM S. THAYER, Johns Hopkins University.

Medicine of the Middle Ages was largely a matter of faith; it was a condition in which reason was heresy. But the clouds of medical tradition slowly gave way and the study of the natural sciences was pursued more eagerly than ever before. Clinical instruction was introduced. There was almost an entire lack of diagnostic methods, diagnosis was based largely on gross clinical manifestations and was necessarily vague. Treatment was almost wholly empirical. In 1789 the French Academy pronounced medicine a conjectural art. But soon came the introduction of vaccination, and a little later anatomy and physiology were placed on a scientific basis. Clinical diagnosis became more and more of an art. The microscope opened up new fields of study and a great reform in medicine followed the introduction of cellular pathology by Virchow. The sphygmograph, thermometer, stomach tube and various means of studying the blood pressure gave assistance in diagnosis. Then came the development of physiological chemistry and advances in knowledge of the nervous system, which gave powers in diagnosis that seemed almost magical, so that in many fields conjecture has given way to exact knowledge. Though there has been an attempt at prophylactic methods in past decades, it was not until the development of bacteriology that prophylaxis became scientific. The first result of that knowledge was the development of antiseptic surgery. While prophylaxis and diagnosis were being removed from the field of conjecture, and the possibilities of surgery were rapidly widening through the discovery of anesthesia, the power to combat disease remained much as it was in the beginning of the century. The investigation of the problem of immunity by Ehrlich opened up a wide field. The widespread investigation of the different phases of immunity has given in a few short years

a mass of knowledge the importance of which is not yet fully appreciated. Besides giving the power of producing a greater or less degree of active immunity, the modern theory of immunity did away with many of the old methods of treatment.

One hundred years ago physicians were sweating, bleeding and purging their patients, and therapeutic measures have been replaced by scientific preventive and curative measures. To meet the manifold problems of the day the physician's training must of necessity be very different from what it was one hundred years ago. Medicine, no longer resting on a basis of philosophical investigation, stands upon the firmer foundation of science. Today the student is taught methods, while a hundred years ago he was taught to theorize. Some people claim that there is in this country a tendency to extend the academic training into years that should be given to practice, and that the course has become so long as to shut out many a man who might be of value to his profession. To avoid that it was attempted to exclude the humanities. It has been proposed to substitute a study of the classics by some of the sciences. But such a policy is not desirable. A study of the classics gives a man training hard to obtain in any other way. One might search long among the great names of medicine and it would be hard to find one unfamiliar with the classics. There should be less complaint of time wasted in giving a man the experience necessary to render him a safe and competent practitioner, for the public in most instances recognizes the man of experience. In considering the general education of many of the men entering the best schools of the day, it should be remembered that a large part of the physician's success depends upon his personal influence, his power to persuade and inspire, and the man of thorough education is the more capable one. If students were better taught and earlier, the time would not be lost and there would be gained for medicine men of greater power.

CLINICAL REPORT.

PARTIAL EXCISION OF THE SHOULDER AND KNEE JOINT— A REPORT OF TWO CASES.

BY HAROLD W. JONES, M. D., of St. Louis.

Although by no means rare, excisions of the large joints are always of interest, especially after a few months, when the question of ultimate functional activity arises. The two following cases have been reported,

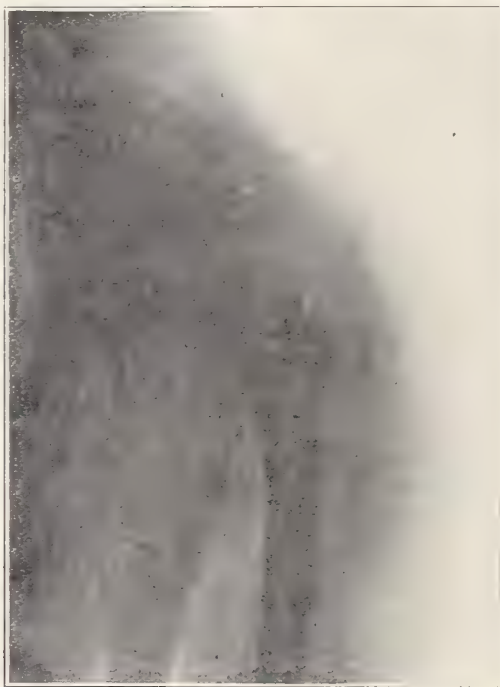


FIG. 1.

not without some hesitancy, since they are in themselves so meagre a contribution, simply as an addition to the literature upon the subject.

Case 1.—The patient was a woman of forty-six, well developed. Five months previous to operation she received a dislocation of the right shoulder, which, however, was not recognized as such, and remained unreduced. Under anæsthesia an attempt was made to reduce it. This not only failed, but, notwithstanding considerable care being exercised,

a fracture of the humeral head was produced, which was not discovered, however, until operation. Manual reduction failing, operation was resorted to. The head was so far internal that it was found impossible to reduce the dislocation, or, in fact, even to free the head, which lay to the inner side of the pectoralis minor muscle, so the shaft was chiseled through at the neck and the head removed later. The end of the shaft

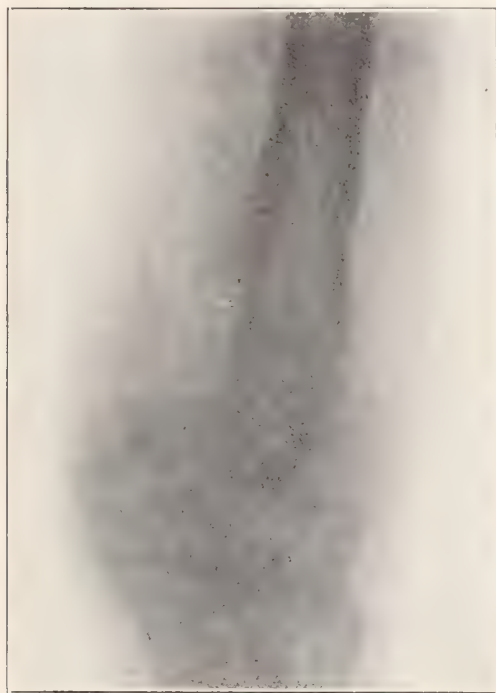


FIG. 2.

was then placed in the glenoid cavity and the muscles sutured and the wound closed. The arm was abducted as far as possible and both the arm and chest enclosed in a plaster dressing. In sixteen days the dressing was removed, and, the wound having healed entirely, passive motion was begun. This was attended with some pain, but the very severe pain which the patient had suffered before the operation was absent. In four weeks all dressings were discarded and the patient encouraged to exercise the arm as much as possible. At the present time, about five months after operation, the patient has practically complete passive motion; all active motion, except in abduction, is perfect, while in abduction active motion is about one-half the normal. A heavy pail of water can be carried with ease, and the only thing the patient cannot do fairly well is to dress her own hair. Looked at without comparisons, the result

is by no means perfect, but compared with the patient's previous condition (one of no motion in the shoulder and continuous pain) it is a fairly good result, and fully justifies the operation.

Case 2.—This patient, a girl of twelve, fell a distance of sixty feet over a cliff, fortunately escaping with her life. Besides other injuries, she received a compound fracture of the right femur at the lower end. At the time she was first seen, several days after the injury, on account of infection, it was found necessary to open the knee joint. The fracture was seen to be a "T" shaped one, and the condyles were so badly shattered that their removal was necessary. This was done subperiosteally, and the lower end of the femur was sawn evenly across. It was then attached to the upper end of the tibia by means of a heavy chromic gut suture. The suture was tied, bringing the end of the femur in contact with the periosteum of the removed condyles. The joint was then irrigated and freely drained. A plaster spica was then applied, going to the toes with an interrupted space at the knee. The wound healed in six or seven weeks, and at the end of that time passive motion was begun, and since flexion had already begun to appear, a modified caliper splint was applied with a joint at the knee. Four months after operation there is a firm joint without deformity, about forty-five of motion and about one and one-quarter inch of shortening, while the child walks perfectly well upon the limb. The x-ray shows a partial regeneration of the condyles.

These two cases certainly serve to emphasize the fact that where one joint surface only is removed, it is perfectly possible to obtain a useful and movable new joint, and that as a rule ankylosis is not to be feared where one articular surface is left intact.

ATYPICAL FORMS OF MIGRAINE.

BY M. W. HOGE, M. D., of St. Louis.

Certain points of resemblance even of relationship between epilepsy and migraine have long been noted and frequently discussed, but that we not infrequently meet with variations from the normal type of attack is more generally recognized in relation to epilepsy than to migraine.

I desire to report two cases of such atypical forms of migraine, the first of which may be considered to correspond to so-called "partial epilepsy," the second to the epileptic status.

N. M., female, unmarried, æt. twenty-two, nativity, Ireland; family history negative.

The patient has enjoyed good health except for painful menstruation when about sixteen, for which she received local treatment.

For the past three or four years she has been subject to attacks of nausea and vomiting at not quite regular intervals, but usually from

four to six weeks apart, and seemingly somewhat related to over-exertion or imprudence in diet; that is to say these factors have at times preceded attacks.

The attacks come on rather rapidly, sometimes awakening the patient from sleep. There is severe nausea and vomiting, first of undigested food, afterwards of a sour-tasting, watery fluid, of a yellowish color, and finally retching, without anything coming up, unless a little mucus or water that has been swallowed.

There is constant pain in the epigastric region, which becomes worse during vomiting or retching.

During the attack the temperature is normal, the skin cool and moist; the patient feels prostrated, and answers questions absently and with apparent effort. There has never been diarrhœa during or immediately after the attack, nor pain of consequence below the epigastric region.

The attack, if not treated, usually lasts from twelve to twenty-four hours, but seems to be shortened by morphia. Its spontaneous subsidence is gradual and followed by sleep. The next day she feels dull and languid, without much appetite, but by the third day is as well as usual, and continues so until the next attack, the appetite and digestion being good, though bowels inclined to be constipated.

Questioning elicits that some of the attacks have been accompanied by headache, but the nausea and gastric pain are so much more distressing that the patient has not paid much attention to this symptom.

A hypodermic of $\frac{1}{4}$ gr. morphia is sufficient to allay the disturbance and produce sleep, but if given early a second or third dose may be required before the attack subsides.

I saw her in two attacks, on October 8 and December 11, 1901. She soon after changed her residence, and I have not seen her since.

In this case the headache, usually the most conspicuous symptom in migraine, and which gives it its name, was in most attacks absent, and the nausea and vomiting constituted the principal manifestations.

The symptoms correspond quite closely to those of so-called gastroxynsis, and I believe that most cases of the latter are examples of atypical migraine.

Probably less often met than the above is the "status hemicranicus," or migrainous status, described by Moebius, Fere and others. It is considered to consist of a series of subintractant attacks of the ordinary type; that is to say, before one paroxysm has subsided another begins.

The following case is illustrative:

Mrs. C. consulted Dr. Green, who, finding nothing about the eyes definitely related to the condition, referred her to me. Patient seen May 23, 1904. Married, æt. 30, family history negative. Health prior to present illness good. Hearing defective, which Dr. Shapleigh ascribed to middle-ear catarrh.

The patient was born and reared in Iowa, but about nine years ago removed to Montana and resided in a mountain valley, several thousand feet above sea level.

She began to become "nervous" soon after arrival in Montana, and after about a year's residence there began to have what she called "bilious attacks," consisting of headache, nausea and vomiting; "saw sparks of light before the eyes."

The attacks at first came once every three or four months, and lasted three or four days. The headache was more severe on the left side, but not limited to it.

Gradually the attacks became more severe and frequent, and are now described as occurring once a month, and lasting about two weeks, with variations in intensity, though she is confined to bed during the entire attack, and is able to take and retain very little nourishment.

During the interval she has fair appetite and digestion.

She still sees flashes of light during the attack, and describes a tonic spasm of the muscles of the left hand and arm, recently, also of the right, during the most severe paroxysms of pain.

I saw her only in the interval. There was then slight tenderness on pressure over the left occipital nerve, but aside from this no sensory or motor anomalies.

EDITORIAL COMMENT.

A BRIEF PLEA FOR SUCCINCTNESS IN SCIENTIFIC PAPERS*.

Medical journalism fairly teems with instances of interminable and padded articles, which are as platitudinous as they are irrelevant to the subject under consideration. Such articles bear the imprint of verbal incontinence and mental sterility. Science is so broadened at the present day that the average physician is compelled to absorb his mental pabulum in a pre-digested state. He has neither time nor inclination for a dyspeptic contribution by an astigmatic mentality. It has been wisely observed that "speech was invented to conceal thought," and if this aphorism be true, then verbal redundancy bespeaks an impoverished mind. Many important and interesting medical observations are sepulchred in words, and only words, and the contributor is so intoxicated with the exuberance of his own verbosity that he defeats the object of his contribution. Others deluge their articles with unimportant details, or employ language so obscure that an exegetic commentary should be annexed. The judicious employment of technicalities abets abridgment of expression. Ornate composition, while desirable, cannot be expected from a mind that reasons on prosaic lines. In this age of specialism, human attention cannot disperse itself and must discard digressional contributions. There is an essence to every concept, and we want that and not its associate accidents. When we write of an ulcer, why mention solution of continuity, soreness, granulations, &c.? The intelligent mind appreciates such concomitant conditions and the word ulcer suffices. We solicit in contributions that which typifies the thing and not ourselves. Our contributions should be teleological and not a concentration of self diluted by facts. We are all inclined to think in circles and express ourselves by the same circuitous route. It is difficult to eliminate the personal equation, hence our articles are employed as vehicles for parading our triumphs, but never our defeats. It is the educated physician who is willing to admit his mistakes. Contributions pertaining to mistakes made in practice are equal in importance to like contributions embodying our triumphs and possess the additional advantage of being impersonal. Such contributions will assist us to avoid Scylla and Charybdis.

THE MULTIPLICITY OF TEXT BOOKS.

In the presence of the apparently ceaseless stream of text books which issues from the medical publishing houses, great and small, throughout the country, the unfortunate being whose duty it is to review each and

* Contributed by Albert Abrams, A. M., M. D., of San Francisco.

every one begins to grow a bit weary and is tempted to cry out *Cui bono?* It appears that the medical man does not regard his existence as quite justified until he has been at pains to deliver his teeming mind of all the facts of the particular subdivision of medicine which he professes. The opportunity is a glorious and tempting one indeed, especially to him who rides his hobbies hard. Here is a chance, than which none other is to be compared, to "wallow in the intense inane" of one's ego. We hesitate to ascribe to our many verbose colleagues merely commercial motives and prefer rather to believe that the American author has yet to learn the immortal virtue of a noble reticence. The question arises, Is the writing of a text book the ultimate goal of the American physician's literary and scientific ambition? When we realize that since the beginning of the year no fewer than seven new text books and manuals have appeared in one specialty alone (ophthalmology), to say nothing of new editions and reprints too numerous to mention, we are inclined to answer in the affirmative. No *magnum opus* engages our colleague's attention. He is devoting himself to writing a "new" (?) text book, which will require the closest scrutiny to distinguish from its predecessor. We are, it appears, rapidly approaching the time when the text book will be made—in America—by certain fixed rules. And let him who scorns the popular formula reap well-merited oblivion.

In this connection an opinion of Dr. Hugo Muensterberg, of Harvard University, a German whose keen and discriminating analysis of "American Traits" is well known, is singularly *apropos*. He finds that the American student, although capable by training and native capacity to attack the unsolved problems of his domain of knowledge, is, alas, too often content to produce as his only work a rehash of the elements of his subject in the form of a text book for undergraduate students.

DR. MILLICAN AND THE ST. LOUIS MEDICAL REVIEW.

An interesting event in local medical journalism is the assumption by Dr. Kenneth W. Millican, of New York, of the editorship of the St. Louis *Medical Review*. Dr. Millican has been associate editor of the New York *Medical Journal* for the past six years. The *Interstate Medical Journal* extends to Dr. Millican a cordial welcome and wishes him every success in his new venture.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

The Relation of Acute Infections to Arterio-Sclerosis.—THAYER and BRUSH (*Journal American Medical Association*, September 10, 1904), made a study of the cardiac and vascular complications and sequels of typhoid fever, and found a possible casual relation of this disease to sclerotic changes in the arteries.

One hundred and eighty-nine individuals who had had typhoid fever under their observation were examined months and years afterwards. It was found that among these individuals the radial arteries were palpable in a surprisingly large proportion of cases as compared with control observations on healthy persons who had never had typhoid fever. Between the ages of ten and fifty, 48.3 per cent. of the old typhoids showed palpable radials as compared with 17.5 per cent. among ordinary healthy individuals.

The average systolic blood pressure was materially higher in every decade among the old typhoids than in control observations on healthy individuals who had typhoid fever.

The average size of the heart was larger among the old typhoids when considered in groups arranged by age, according to decade, than in figures obtained from examination of the typhoid patients at the time of admission to the hospital.

As a result of the analysis of the records of 4,000 patients entering consecutively the medical wards of the Johns Hopkins Hospital, it was found that the percentage of palpable radial arteries is materially higher among those individuals in whom there is a history of heavy physical labor and of the use of alcoholic stimulants than in the remaining cases.

The percentage of palpable radial arteries is higher among those cases presenting a history of severe infectious diseases than among those in which the history is absent or among those in which a history of no casual factor could be obtained. The proportion is, however, far below that in the case of work or alcohol.

Rheumatism appears to be the acute infection after which the percentage of palpable vessels is highest, and next to rheumatism typhoid fever. They believe that the main etiologic factor in the development of the hyperplastic thickening of the intima, which constitutes so important an element of arterio-sclerosis, is overstrain of the vascular walls, continued or intermittent high tension, whatever its ultimate cause may be.

X-Ray Therapy in Leukemia.—CAPPS and SMITH (*Journal American Med. Assn.*, September 24, 1904), review the literature of the x-ray treatment of leukemia, and find reports of eleven well-verified cases. All but one of these belonged to the spleno-myelogenic type. In every

instance the splenic tumor decreased in size, in three cases becoming barely palpable. The leucocytes in all cases excepting one diminished in number.

The action of the x-ray seems to be of two kinds: (a) A local influence on the spleen and glands, characterized by an inflammatory reaction and later by a breaking down and disintegration of the gland tissue; (b) the formation of toxins which have an inhibitory action on the manufacture of leucocytes by the bone-marrow. It is well known that the acute infections occurring in leukemia, such as pneumonia, septicemia or terminal infections, tend to inhibit the production of white corpuscles and often cause a reduction in the size of the spleen. The x-ray toxins may be compared to these.

In no recorded instance of either lymphatic or spleno-myelogenic leukemia has the spleen tumor entirely disappeared.

With the discontinuance of the x-ray, the disease after varying periods tends to reassert itself.

Death may take place when the glands and spleen are smallest, and when the white count is normal.

Acute cases seem to receive no benefit from x-ray.

The chronic form of lymphatic leukemia responds to the x-ray even more promptly than the spleno-myelogenic type. In every instance the glands rapidly softened and dwindled to small proportions.

The x-ray holds the process in abeyance, but is probably not curative.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Suture Material with Delayed Resorption.—MIYAKE (*Beitrag zur Klinischen Chirurgie*. Band, xliii; Heft, 2).—The article opens with a resume of the disadvantages inherent to the use of silk, silk-worm-gut, etc. The main disadvantage in the use of cat-gut lies in the fact that it is absorbed too soon, no matter what the method of preparation be. It suggested itself to Prof. Mikulicz that something could be accomplished by tanning the various absorbable materials commonly used for sutures and ligatures. This the author makes the subject of his article. He compared nerves, strands from the pleura of the horse, tendons and cat-gut, finding that the last named was in every way better fitted to the uses above mentioned. Tanned cat-cut, after sterilization by the method of Hofmeister, remained strong enough in the tissues for sixty-five days to fulfill its function; when the wound suppurated, the same material was absorbed in less than thirty-two days. Tanned gut caused no tissue changes, did not grow stiffer as a result of the process and was in no wise inclined to deteriorate as a result of this treatment. Extract of quebracho was used for the tanning, since it contains 15 to 22 per cent. of the chemical which is represented by 10 to 12 per cent. in tannin. This new material is the product of an oak which grows in the Argen-

tine republic. The entire process is as follows: 1. Tanning of the gut for twenty-four hours in a 5 per cent. watery solution of quebracho extract; then wash a short time in water. 2. Sterilization according to Hofmeister.

Imperforate Œsophagus in a New-Born Infant.—VILLEMIN (*Bulletins et Memoires de la Société de Chirurgie de Paris*, Tome xxx., No. 25).—This infant regurgitated everything it swallowed, and the cause was apparent when it was seen that the sound could only be passed 12 cm. below the superior gingival border. At the same time the baby would be almost suffocated every time it tried to swallow. On the third day a gastrostomy was made, but whenever fluid was poured into the stomach the partial suffocation was repeated and fluid was ejected from the mouth to the surprise of the onlooker. On the seventh day the child died from a double pneumonia, and at autopsy all the interesting chain of symptoms was explained by the following pathological findings:

There was an œsophagus of four cm. length, at the lower portion of which there was an opening into the trachea just above the bifurcation of the latter.

The Sensory Distribution of the Fifth Cranial Nerve.—CUSHING (*Bulletin of the Johns Hopkins Hospital*, July-August, 1904).—This extensive article represents the most exhaustive study which has been done upon this subject; it represents an immense amount of work and an observation of the very unusual number of twenty-six cases in which the gasserian ganglion had been removed. This subject cannot be determined by animal experimentation since the verbal interpretation of the sensations experienced by the subject are indispensable to a proper understanding of the same. In man the only over-lapping of the fields of trigeminus and cervical nerves, in the mandibular portions at least, are for sensations of pain, though it must be added that these are often not expressed as such by the patient. Cushing seems to have been the first to demonstrate that the field of the fifth nerves extends into the external auditory canal; he has shown that this goes to the extent of about one-half the drum membrane as well as the anterior wall of the canal. A study of these cases has confirmed Cushing in his opinion expressed earlier, that the taste fibers from the tongue run independently of the fifth nerve. He accounts for the fact that the tongue seems not to lie in the middle line, by the fact that the motor root of the nerve is always destroyed where the ganglion is completely removed, thus the pterygoid muscles on the same side are paralyzed, the jaw is deflected to that side and the tongue left asymmetrical as far as the lower jaw is concerned. The dura mater is rendered completely insensitive in the region involved by the operation, as was shown in one case treated by the open method.

The Pathology of Open-Pneumothorax and the Fundamentals of My Procedure for Its Prevention.—SAUERBRUCH (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Band xiii., Heft. 3).—In this lengthy and highly scientific article are carefully expounded all the finer reasonings which have been deduced by the author during his experiments. A short article which was reviewed in these columns recently told some-

thing of the process of operating upon both thoracic cavities at once, while the chest of the animal was encased in an air-tight chamber from which the air had been partially exhausted. There is nothing absolutely new in principle added to the matter now; the author goes much more into detail as to the technique employed, and at the same time gives a most exhaustive description of the effects upon respiratory, circulatory, and nervous symptoms of the entrance of normal air as well as of rarified air into one and both chest cavities at the same time. The article is too long and too technically written to be suitable for a review here; it must be read in the original by one interested in trying these experiments.

The Prevention of the Effects of Pneumothorax by Increasing the Air Pressure Within the Bronchi.—BRAUER (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Band, xiii., Heft, 3).—It is a matter of more than passing interest that there should appear in the same number of the same publication an article which directly opposes the reasoning of the preceding article in every point. Brauer aims at the same result as Sauerbruch, but attempts to open both pleurae at once and prevent ill-effects by simply keeping the lungs filled with oxygen forced into the trachea under pressure instead of diminishing the atmospheric pressure upon the outer surface of the lungs while the chest is open. This author remarks that it is a difficult and costly matter to construct a vacuum chamber into which the operator and the body of a large animal can be brought. On the other hand he considers it quite simple to tie a canula in the trachea and through it to inject enough oxygen into the lungs to keep an animal alive. He has counteracted the effects of pneumothorax in another way, i. e., by placing the animal's head in a sort of air-tight box and forcing in air by means of an ordinary air pump. His proposition seems most reasonable, that it matters little which of these two things we do, so long as we keep up a certain difference between the air pressure within and that without the lungs; that is, it matters little whether we blow air into the bronchus or exhaust it from the chest cavity, so long as we simply keep up such a difference between air inside and outside the lung that it cannot collapse. The author goes deeply into the effect of partially obstructing the lesser circulation, and concludes that the heart can adapt itself to very considerable impedimenta; this is a matter of the greatest moment to the surgeon, when he considers the resection of large portions of lung tissue, etc. It is astonishing to the author to find how little oxygen is indispensable to the support of life, and how little lung tissue is necessary. In the apparatus which the author has constructed it is possible to administer the anæsthetic in any desired amount or strength without taking the head of the animal out, and without danger of such an amount of the drug becoming mixed with the air contained as to render the procedure dangerous.

The "Y" Operation in the Performance of Cholecyst-Enterostomy for Cancer of the Pancreas.—MONPROFIT (*Archives Provinciales de Chirurgie*, Tome, xiii., No. 8).—This is the first recorded case in which the application of the principle of Roux's gastro-enterostomy has been applied to the formation of an opening between the gall-bladder and the jejunum.

The patient was a woman who had suffered from terrible pains in the upper portion of the abdomen for about a year. About four months previous to the time of operation she became very icteric, and there were all the signs which accompany complete obstruction of the common duct, the gall-bladder being plainly made out as distended. At the operation this biliary obstruction was seen to be due to a tumor of the head of the pancreas, hence an anastomosis was made between the gut and gall-bladder in the manner above mentioned, sutures being used throughout. The jejunum was divided at a point 50 cm. below its origin, the upper segment being implanted into the side of the other about 15 cm. below the site of the union between the lower segment and the gall-bladder.

The immediate effects of the operation were all that could have been desired, but the woman died ten days later of a toxemia of hepatic origin. At the autopsy the suture line was seen to be perfect, while the peritoneum was seen to be free from inflammation. Secondary tumor (cancerous) nodules were found in the liver.

The Formation of an Artificial Vagina by Intestinal Transplantation.—BALDWIN (*Annals of Surgery*, September, 1904).—The procedure here advocated is that of making a new opening in the perineum and then bringing a loop of ileum or sigmoid down for a mucous membrane lining. This is to be done by "switching out" a section of gut which is left attached to its mesentery; the two ends of gut are to be closed blind, or one of them sewn around the cervix if a uterus be present. Then the convexity of the loop is to be drawn into the perineal opening, sewn there, and a vaginal outlet established. After it has healed in place the septum between the two limbs of the new vagina is to be obliterated by pressure forceps.

Wiping Out the Choledochus.—KEHR (*Zentralblatt*, 1904, No. 28).—Kehr is no doubt the best known German writer and operator as far as the surgery of gall stones is concerned. He has instituted new procedures almost without number, hence the surgical world gives more than ordinary attention whenever he brings out something fresh. In the present instance he had opened the common duct, but was unable to release stones therein, so he made a duodenotomy and pushed a forceps through the papilla of Vater backward through the duct until it presented behind the duodenum, when he grasped a piece of gauze in the forceps and by withdrawing it succeeded in wiping out the duct and removing small stones and sand. In one case it was necessary to repeat this five times before the duct was clean. Three cases treated thus were cured, and no duodenal fistulæ seen.

Surgical Asepsis.—LONGUET (*Le Progres Medical*, Tome xx, No. 37).—From the very interesting series of articles by this author on this subject in general, there is taken for this review only that which pertains to sterilization by the use of the vapors of anhydrous liquids under pressure. The following volatile liquids were used: Absolute alcohol, chloroform, acetone, xylol, turpentine, etc., with a result that anthrax and tetanus were killed, germs as well as spores, by all of them, when used under pressure for forty-five minutes at a temperature of 140 de-

grees C. (288 F.). After comparing all the properties of the fluids used, the author gives the palm for general usefulness to xylol. His experiments were done by sealing his cultures up in small glass tubes and then exposing the same to the above mentioned temperature in the autoclav.

Factors in the Mortality of Appendicitis.—DEAVER (*The Journal of the American Medical Association*, Vol. xliii, No. 13).—Great stress is laid upon the use of common sense in eliciting the history of the attack as well as upon the use of the palpating hand of the surgeon in making a diagnosis, without which the mortality will, as a matter of course, be high. It is the duty of the doctor at large to instruct the people in the danger of using opiates until someone has had a chance to make a diagnosis. Every acute abdominal attack must be regarded as serious, and the possibility of an appendicitis be borne in mind, and no other diagnosis made until the physician can be sure that it is not appendicitis. Early operation is to be regarded as a conservative rather than a radical procedure, since we are dealing with dangers which cannot be definitely known until the belly is open. The author operates in every case seen early, if there be not a spreading peritonitis; these may be mild or severe. Great stress is laid upon the danger of intestinal obstruction following the formation of the adhesions which constitute "walling off." Many of Deaver's statements may be regarded as radical by many, but no one can arrogate to himself the right to neglect a warning from one who has had Deaver's extensive and successful experience in this matter.

Peritonitis Originating from the Biliary Passages.—EHRHARDT (*Archiv fuer Klinische Chirurgie*. Band lxxvi, Heft 3).—Experiments have proven that bile from the healthy biliary passages cannot produce peritonitis, as has been proven by accidents which have happened to the human subject. Where inflammation is set up by bile, the latter must contain germs, of which the most common are the coli communi, though it must be added that no less than thirty-five cases exist in the literature where a gall bladder ruptured after typhoid ulceration. It is a singular fact that the presence of bile in the peritoneal cavity has a tendency to lessen the effects of all kinds of toxins. An example of this was furnished the author when he found, experimentally, that a certain culture of coli communi killed cats within one day after injection into the peritoneum, but that the same result was possible in no less than five days after the admixture of bile with the germs. Clinically we notice that a peritonitis resulting from a rupture of a diseased gall bladder has much less intensity, tends more rapidly to become encapsulated, and altogether to give a better prognosis than do the usual varieties. All of these results are attributed by our author to the fortunate admixture of bile

Cold Abscess of the Tongue.—MERCADÉ (*Gazette des Hopitaux*, September 8, 1904).—The patient was a little girl of eight years, who presented an abscess about the size of a pea upon the dorsum of the tongue, half way between the two ends of the member, and near the median line of the same. It had developed slowly without pain, and

without the child being otherwise suspected of a tuberculous affection of any kind. When it was opened the pus presented all the gross characteristics of tuberculous material, but a bacteriological examination failed to reveal germs of any kind. The case is reported because of the extreme rarity of anything of its kind.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Use of Camphor in Pulmonary Tuberculosis.—W. KOCH (*Berliner klin Wochenschr.*, 1904, No. 18).—Some years ago Alexander reported cases of pulmonary tuberculosis favorably influenced by hypodermic injections of camphorated oil. During the past five years, Koch has used this procedure in a large number of cases of phthisis with satisfactory results. While not inclined to pronounce it a specific in this disease, he believes it to be a valuable aid to its hygienic dietetic management. At first he used the method of Alexander. On four successive days one gram of ol. camphorat was injected once daily; then came an intermission of ten days, whereupon the injections were resumed. The results were very good. The temperature soon fell to normal and remained there for some time; the sputum at first increased and the expectoration became easier; the night sweats ceased, often permanently; the appetite improved, the patients gained in weight and nearly all slept more quietly. Advanced cases, as was to be expected, showed only a temporary improvement, but some of the cases in the second, and especially in the first, stage were entirely cured.

Recently the writer has replaced the camphor injections by means of the percutaneous application of the drug in as nearly as possible the same dose. In consideration of the volatility of the camphor, he arranged the formula of his ointment so that about 0.4 grams of camphor were rubbed into the skin each time. This camphor ointment, the formula for which is not completely given, may be bought ready made under the name *Prævalidin*, although it would seem that any one could improvise a similar formula. It is rubbed into the skin daily, using, in turn, each arm, each thigh and the back. The results are said to resemble those obtained by the subcutaneous injections. In one case the prompt cessation of a hemoptysis could apparently be ascribed to a single enunction.

The expectorant action of the camphor lead the writer to try it in cases of emphysema and bronchitis. Here, too, the enunctions were followed by results similar to those obtained in phthisis. The expectoration was at first greatly increased with diminished effort, but soon gradually ceased.

Thyroid Extract in Puerperal Eclampsia.—W. G. BALDOWSKY (*Wrat-schebraja Gaseta*, 1904, No. 1; *Die Therapie der Gegenwart*, August,

1904).—Baldowsky reports two cases of eclampsia in which he used the extract of thyroid gland first recommended by Nicholson. The first case was that of a multipara who had passed through six normal pregnancies. Her seventh was also entirely normal up to the two last weeks, when, after a fall on the back of the head violent headache, vomiting and diarrhoea ensued. The evening before the patient entered the hospital the first attack of eclampsia set in, followed by five others at intervals of one or two hours. The patient was put under chloroform and given a hypodermic of morphine. Three quarters of an hour later she had another attack. More chloroform and morphine were given, but the attacks did not cease even when chloral hydrate and other narcotics were administered. The writer therefore tried thyreoidin, of which he gave 0.3 grams. The next attack came more than two hours later. The patient received another thyreoidin tablet, whereupon the eclamptic attacks ceased permanently. The patient was discharged as cured four days later, and was delivered spontaneously at the normal time. In this case the favorable results cannot be exclusively ascribed to thyreoidin as other medicaments were also used.

The second case received only thyreoidin with the same favorable result. The patient was a primipara who, on the second day after the first labor pains, had her first eclamptic convulsion. The latter lasted two minutes; consciousness did not return, however, until after twenty minutes. An hour later a second, still more violent, attack occurred. The third came on two hours later, after she had been transferred to the hospital. A thyreoidin tablet of 0.3 grams was given at once. Two hours later there was another convulsion, whereupon another tablet was given. There were no more attacks, and two hours later the child was born spontaneously. The post-partum period was normal.

In our opinion neither of the above cases shows beyond question that thyreoidin has the power to cut short puerperal eclampsia. In the first case the usual narcotics were used and the effect observed may well be ascribed to them. In the latter case the attacks came on every two hours uninfluenced by the drug. As the uterus succeeded in emptying itself two hours after the last convulsion, the cessation of the seizures can more readily be ascribed to this fact than to the virtues of thyreoidin.

The effect of the drug upon the renal secretion is not, however, without interest. The first patient upon entering the hospital passed 100 ccm. urine, containing 0.4 per cent. albumen, with a specific gravity of 1017. Three hours after the administration of thyreoidin, 300 ccm. urine, with a specific gravity of 1010 and a trace of albumen, were passed. Thereafter a marked polyuria set in, 2765 ccm. of urine, with a normal freezing point, being passed in the next twenty-four hours. In the second case, also, an increased secretion of urine was noted after the administration of thyreoidin. It is to this diuretic effect of thyreoidin in eclampsia that both Nicholson and Baldowsky ascribe its therapeutic value. The latter comes to the following conclusions:

1. Under the thyreoidin treatment (three or four tablets of 0.3 grams daily) the eclamptic attacks cease.
2. The disturbance of the renal function is stopped.
3. It is well to give narcotics in addition to the thyreoidin, as thereby both the intensity and the frequency of the attacks are diminished.

The Treatment of Pyloric Stenosis by Means of Thiosinamin.—A. HARTZ (*Deutsch Med. Wochenschr.*, 1904, No. 8).—Many observations, especially those of Lengemann, Lewandowski, Juliusberg, Friedlaender and Roos, seem to show that thiosinamin possesses the power of acting upon scar tissue wherever it may be situated, softening and stretching it, so that the disturbances produced thereby disappear. Ordinarily, it has been used on external scars, although Roos advocates its use in pleuritic thickening. Hartz's case was one of undoubted benignant pyloric stenosis, due to the formation of scar tissue following gastric ulcer that had produced retention and its accompanying symptoms for twenty-eight years. In October, 1903, Hartz began treating the case with thiosinamin injections, using a 15 per cent. alcoholic solution, and injecting this subcutaneously into the back. He began with eight drops, but rapidly rose to sixteen drops, his usual dose. Occasionally he injected twenty-four drops. Twenty-three injections were given altogether, at the rate of two a week. After the ninth injection the appetite had improved, the food passed more readily into the duodenum, and gastric lavage showed the fasting stomach to be quite empty. Thereafter all the gastric symptoms improved rapidly, and an entire cure resulted. The drug is always quite harmless, and while the injections are moderately painful, they are not unbearably so. Inflammation, or even redness at the site of injection, was never observed.

Aspirin in the Symptomatic Treatment of Inoperable Carcinoma.—J. RUHEMANN (*Deutsch Med. Wochenschr.*, 1904, No. 23).—The analgesic value of aspirin has long been recognized, especially in rheumatic affections. The writer, however, reports five cases in which the administration of aspirin enabled him to dispense with morphine injections. In one case of carcinoma of the stomach with excessive pain, morphine in doses of $\frac{1}{4}$ grain had to be discontinued because it produced violent nervous excitement; 15 grains of aspirin, however, calmed the patient and always produced quiet sleep. For the relief of pain, Ruhemann is accustomed to give $7\frac{1}{2}$ grains of aspirin every half hour, without, however, exceeding a total dose of 30 grains. For the production of sleep he gives a single dose of 15 grains at bed-time. In no case, even after constant administration for many months, did he remark either a lessened effectiveness of the drug or any ill after-effects. Just why aspirin should have a stronger analgesic activity than equivalent doses of sodium salicylate is not clear; experience, however, seems to show that this is a fact.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

About the Motility and Emigration of the Lymphocytes of the Blood.—WLASOW and SEPP (*Virch. Arch.*, Vol. 176, Heft 2).—After reviewing the literature on the subject the authors report the results of their own investigations. Taking care not to change the osmotic equilibrium of the blood, they examined at 37-38 C., fresh blood and were able to observe slight changes in the cells, especially the larger ones. However, not all of the cells showed these changes. A locomotion was never seen. At 40 a more active protrusion and retraction of processes could be found and at 44 an active locomotion occurred like that of the polynuclear leucocytes, continuing even after lowering of the temperature. From these observations, it follows, that lymphocytes under normal conditions are immotile; when heated they become motile, but only at temperatures at which other leucocytes die. If certain substances, as peptone, lecithin, etc., were added, even at lower temperatures motility was seen, that means under the influence of the disturbance of the normal chemic conditions. This motility observed under the circumstances reported, cannot be considered as due to the normal activity of the cells: by direct observations under normal conditions so far a motility or power of emigration has not been established. These are the conclusions of the authors, that are fully in concordance with the views of Ehrlich. Whether or not pathologic conditions may influence the lymphocytes in the same way in which the authors influenced the latter by their method, is not known, so that the observations do not altogether exclude a possibility which seems to be in the opinion of many observers a very frequent occurrence.

Secondary Inoculation From a Chimpanzee Infected with Syphilis.—O. LASSAR (*Berl. Klin. Woch.*, 1904, No. 30).—As reported in this journal previously, Lassar has succeeded, the same as Metschnikoff and Roux, in infecting a chimpanzee with material derived from a fresh case of human syphilis, and to produce typical syphilitic lesions and phenomena. Histologically the lesions correspond completely to the picture found in man. In this paper the author discusses the result of the inoculation of a second chimpanzee with virus taken from the first one (the character and nature of the pathologic material used is not given.) The experiment was made three months after the first animal was infected. The result was the development of a typical primary lesion, later on followed with the appearance of papules on different parts of the body, that were not distinguishable from those of syphilis. Unfortunately the animal died of miliary tuberculosis, so that further investigation in this series was prevented. The autopsy did not reveal any visceral changes of syphilitic origin.

It seems that this result can be accepted as a demonstration of the fact, that the infection of the second animal was brought about by a

virus growing and multiplying in the first one inoculated with human virus. Whether this discovery will serve the purpose of obtaining a serum against the "bacillus" of syphilis, is, however, a question that Lassar would have done well to omit from his paper.

Toxines and Antitoxins.—PH. MADSEN and L. WAHLBAUM (*Contribl. fr. Bacter.*, Orig. Vol. 36, No. 2).—This paper by Madsen and Wahlbaum, like previous ones by Arrhenius and Madsen on Tetanolysin and Diphtheria toxin, attempts to establish the relations of ricin to antiricin by a formula complying with the law of Guldberg and Wage, is only mentioned to connect with it a few remarks on the permissibility of their method. Nernst has convincingly demonstrated that it is wrong to apply the formulas obtaining for reversible reactions to colloids and that the method in which these authors arrive at the results of their calculations is faulty. On the other side Sachs and v. Dungern have brought the absolute proof that the reactions between diphtheria and tetanus toxin on one hand and their antitoxins on the other, cannot be reversible like those of definite substances. Mixtures of toxin and antitoxin, to which the former is added in fractions are more toxic than when the toxin is added at once. The experiment by the authors that a neutral mixture of diphtheria toxin and antitoxin, allowed to diffuse into gelatine makes the gelatine toxic, means nothing; we know by Morgenroth's researches that the complete binding of the two substances to each other takes twenty-four hours. In fresh mixtures which were used by the authors alone, free toxin and antitoxin are present. Their experiment, therefore, only shows that the toxin is more easily diffusible than the antitoxin. The experiment repeated with mixtures twenty-four hours old, results negatively. This could not be so if the reaction would be reversible. Here a dissociation ought to occur, growing in extent, as the diffusible toxin is gradually removed by the gelatine.

The Typhoid Epidemic in Beuthen, Silesia, in 1900.—(D. NOETEL, *Zeitschr. f. Hyg. u. Infect. Krankh.*, Vol. 47, Heft 2).—That the ordinary rate of typhoid morbidity is of an endemic character, due to contact infection, and not epidemic, due to water or milk contamination, has become more and more evident during the last few years. That, however, real epidemics of great extent can also be caused merely by contact, was so far unknown. Noetel describes in this paper such an epidemic, that raged during the summer of 1900 in the county of Beuthen (Germany), comprising a population of 65,000 inhabitants and showing in a few months a sudden typhoid morbidity of 927 cases, with eighty-four deaths. The investigations instituted by the government officers, of which Noetel gives a resume, excluded with absolute certainty, that water or milk caused the dissemination of the disease. The careful location of the single cases, however, showed that they were arranged in groups, leaving uninfected areas between them. It was furthermore found, that the disposition of fecal material and refuse, especially in these foci, was altogether inadequate and that the chances for contact with this material were present everywhere. There was no difference in the water supply of the infected and the immune areas. A proof of the correctness of this assumption was practically given by the rapid check in the progress

of the epidemic by the most exacting sanitary supervision. This called a halt for about one month, when the usual aggravation (by direct contact) seen after the subsidence of typhoid epidemics made its appearance. By this time a return to the old slovenly methods had taken place, and the consequence was a second outbreak of tremendous proportions. By enforced sanitary measures this, too, was soon checked.

The paper should be read in the original, as it contains in a most demonstrative way a great mass of evidence, definitely showing the correctness of the views held by Koch and his followers on the fight against the typhoid pest.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

The Etiology of Kraurosis Vulvæ.—PH. JUNG (*Zeitsch. f. Geb. und Gyn.*, Vol. 52).—This paper forms a very interesting contribution to the question of kraurosis vulvæ. As known, the following tissue changes have been accepted as characteristic for this rather rare disease of the vulva: Sclerosis and edema of the corium, disappearance of the papillæ, small cell infiltration in the deeper layers of the corium, degeneration of the elastic fibres and atrophy of the rete malpighii and the stratum corneum. The author subjected to a careful microscopical examination pieces of skin taken from the vulvæ of patients who did not offer any symptoms nor naked-eye changes pointing to a kraurosis. Nevertheless, he found almost exactly the changes considered characteristic of kraurosis. He concludes, therefore, that kraurosis vulvæ is not a clinical entity, but the final stage of chronic vulvitis.

Chorio-Epithelioma Following Tubal Pregnancy.—G. HINZ (*Zeitschr. f. Geb. und Gyn.*, Vol. 52, 1904).—Hinz describes a new case in which a chorio-epithelioma developed from a pregnant tube. Patient, thirty-three years of age, showed the symptoms of an ectopic pregnancy five weeks after her last menstruation. Laparotomy was performed and the right pregnant tube extirpated. Three weeks after the operation she began to complain of bleeding and pain in the right side of the lower abdomen. Two weeks later she was examined internally and a round tumor of about the size of a small fist was detected, attached to the right cornu of the slightly enlarged uterus. It was suspected that a new extrauterine pregnancy had developed in the stump of the tube and again laparotomy was performed. A few days later patient began to vomit, the liver increased in size, patient became jaundiced and began to fail in strength. Exitus occurred seven weeks after the operation. The lungs, liver, abdomen and pelvis contained masses which looked like blood-clots. On microscopical examination this tissue was found to be typical chorio-epithelioma.

[There are only four or five cases of this kind known in literature,

and the question arises whether this number would not be considerably larger, if in all cases of so-called recurrent ectopic pregnancy the extirpated tumor would be examined microscopically.—Editor.]

Vesicles of Hydatiform Mole Constitute a New Growth of Epithelial Nature—Vesicular Mole and Chorio-Epithelioma are Histologically Identical.—P. SFAMENI (*Arch. Italiennes de Biologie*; rev. *Brit. Jour. of Obstetr. and Gyn.*, August, 1904).—As early as 1871 Ercolani demonstrated that vesicles of a hydatiform mole may carry pedicles on both of their poles, which pedicles were in direct association with epithelium only. This showed the absolute impossibility for the parenchyma of a villus to enter into the composition of a vesicle. Ercolani's deduction was that a vesicular mole represents a peculiar neoplasm arising in the epithelium of chorionic villi.

Sfameni has noted a transition from the epithelial covering of a vesicle to the stellate cells which have been regarded as myxomatous tissue. He states that the interior of a vesicle is not connective tissue stroma, but epithelium modified by more or less rapid necrosis. The cells of Langhans' layer and the syncytium are two elements which are now regarded as one and the same, the former arising from the latter, and to this it may be added that the "stroma" is derived from one or the other, or both, the entire vesicle, in fact, being epithelial. The one essential element in the formation of a vesicle is syncytium. The evolution of a vesicle starts with the syncytium. In this epithelial structure two processes become manifest: (1) An external proliferation or progression; (2) an internal proliferation, followed by degeneration or retrogression. The result is a hollow vesicle in which mesoblastic tissue has formed no part. The syncytium is the one essential element in its formation, and this is true, wherever this vesicle is found—in a mole or a chorio-epithelioma. The finding of villi in the latter and its secondary deposits is an error of interpretation, due to degenerated epithelium being mistaken for myxomatous connective tissue.

The writer concludes this paper by stating that Veit's deportation theory is shown to be an absurdity. Admitting an epithelial origin for syncytium and Langhan's cells, Sfameni promises to advance proof that the source of syncytium is the *maternal uterine epithelium*.

Pregnancy and Thievery.—FISCHER (*Allgem. Zeitschr. f. Psychiatrie*; rev. *Muenchn. Med. Wochenschr.*, No. 30, 1904).—The writer reports the medico-legal opinion in the following case: A farmer's pregnant wife, twenty-eight years of age, stole at four different places spoons, cloth, linen and chickens respectively. In a preceding pregnancy she was extremely irritable, had pain, a tremor, headache, vomited very often, suffered from insomnia and somnambulism. During the present pregnancy she was continually nauseated, all the reflexes were increased, she was very irritable, had a tremor and was depressed. Patient stole the above mentioned articles always at the time of the missing menstruation. The medical expert's opinion was that it is extremely probable that the patient was in a non-responsible condition when she committed these thieveries.

Injuries of the Rectum During Gynecological Examinations.—KELLY (*Wiener Klin. Therap. Wochenschr.*, No. 29, 1904).—A methodic rectal exploration in all gynecological examinations has of late been extensively propagated by a number of gynecologists. Kelly calls attention to the fact that there seems to be a certain danger of a perforation of the rectum into the peritoneal cavity during such examinations. The writer reports four cases of the kind, and describes how such an unfortunate accident can be prevented by using the necessary care in introducing the finger and by always supporting the elbow of the exploring hand. The accident seems more liable to occur in old women.

The After-effects of Forced Mechanical Dilatation of the Cervix During Labor.—H. V. BARDELEBEN (*Archiv. f. Gynäkologie.*, Vol. 73, 1904).—Six patients in whom during labor the Bossi dilator was used were examined by the author five months after confinement. In all cases more or less serious lacerations of the cervix were found. Considering the large percentage (75 per cent.) in which deep lacerations of the cervix eventually lead to gynecological troubles the author finds one more cause against the use of the Bossi or similar dilators.

Slow or Forced Delivery in Eclampsia?—A. SIPPEL (*Zentralbl. f. Gyn.*, No. 27, 1904).—Sippel at previous occasions defended the conservative views of Ahlfeld, Pfannenstiel, etc., in dealing with eclampsia during labor. The fact, however, that he lost three of his patients within a short time induced him to be more radical. In this paper he discusses the reasons why a more active procedure seems preferable. In all the discussions and investigations of the etiology of eclampsia only one point was apparently positively settled, namely, that eclampsia is a product of pregnancy, is dependent upon the presence of a fetus in the uterine cavity. It, therefore, seems very reasonable to remove the fetus if after a trial with conservative measures the symptoms do not improve. The one question to be settled by further observations is how long we can wait before resorting to the radical interference.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Middle Ear Complications of Measles.—NADOLECZNY (*Jahrbuch fuer Kinderheilk.*, August, 1904, *Erganzungsheft*), reports the results of his studies of 100 cases of measles, with reference to the question of middle ear complications.

Fifty-nine per cent. of the cases showed acute inflammatory ear trouble, and the other cases were not all free from some disturbance of mild degree. As a result of his studies, and after a study of the literature, he comes to the following conclusions:

Acute middle ear catarrh, and acute purulent otitis media are the commonest complications of measles.

Ear complications usually occur within two weeks of the appearance of the eruption, though they may come on in the prodromal stage, sometimes during desquamation. Ear complication should, therefore, not be considered as sequelæ of measles.

The development of middle ear trouble in measles is often favored by abnormal conditions of the upper air passages and of the lungs. Care in the treatment of such conditions is, therefore, necessary. Nasal irrigation is usually contraindicated. Distinct subjective symptoms usually mark the onset of these complications being, as a rule, the ordinary symptoms of acute otitis media.

As a rule, the otitis of measles is benign, and there is a tendency to spontaneous cure. This is, however, not always the case, and the severest results of otitis are sometimes seen in these cases.

Through early prophylactic treatment it is often possible to limit the exudation in the middle ear. Even where perforation of the drum has occurred, the process runs its course in about three weeks on the average. Relapses are only rarely noted.

Neglected cases often terminate very badly.

Some of the Less Commonly Recognized Manifestations of Rheumatism in Childhood.—BURNET (*Brit. Jour. Chil. Dis.*, September, 1904) believes that heredity plays an important part in the etiology of rheumatism, citing several cases in support of this view.

The author believes that acute pharyngitis in childhood is in very many cases rheumatic, and advocates careful examination of the heart in these cases, with rest in bed until all doubts are set at rest.

Certain cases of pneumonia in childhood, are undoubtedly due to the rheumatic virus, while appendicitis is a rheumatic affection in not a few cases.

Again, psoriasis scarcely ever occurs in childhood save in rheumatic subjects, and the marked benefit which results from the administration of anti-rheumatic remedies in the psoriasis of childhood, is certainly significant.

A condition which the author calls gastro-enteric spasm, in which the child complains of acute gastric pain after meals, and has urgent calls to stool, is very often rheumatic in origin.

Many rheumatic children complain merely of a pain in the side or in the upper part of the chest, and this sign ought not to be disregarded. Indeed, definite rheumatic manifestations are often wanting altogether. Many children show simply very marked nervousness and irritability, with more or less distinct muscular twitchings. These signs are often the precursor of a true chorea, which, according to Burnet, "is nothing more save muscular movement, superadded to a pre-existing state of nervous unrest."

With reference to treatment, the author thinks the best results are had from the use of large doses of salicylate of soda, or aspirin. To a child of five, ten grains of either remedy may safely be given every four hours for several days. In addition, calomel should be used freely.

The local use of the ice-bag in heart affections is of great value. It

should be carefully wrapped in flannel, and, if necessary, slung up so that its weight does not rest on the yielding chest wall of the patient.

If convalescence is retarded, small doses of cod liver oil should be given, and the administration of anti-rheumatic remedies continued.

The Treatment of Anemia in Children by Iron-Vitellin.—CARPENTER (*Brit. Jour. Chil. Dis.*, August, 1904) believes that as a result of experimental and clinical studies on the subject of iron medication, the desiderata of a satisfactory iron compound for clinical use, may be thus formulated.

The iron must be an organic form, it must be unchangeable by the gastric juice, and its clinical effects on the proportion of hemoglobin, red corpuscles and the subjective symptoms of anemia must be appreciable.

The author has been using for some time past, iron-vitellin (a compound of iron in definite chemical combination) in hospital and private practice, and believes that this remedy is destined to occupy a wide field of usefulness as a tonic for children. The various secondary anemias of children were very often quickly benefited by its use. Five typical case reports are appended. The author holds that in the treatment of secondary anemia in childhood, too much stress must not be laid on mere increase of the red cells and of the percentage of hemoglobin. Even after the use of the various inorganic iron preparations, such increase may often be noted, while the child continues to suffer from the symptoms of anemia. According to the author's observations, this is not the case where iron-vitellin is used. He believes that this drug produces prompt increase in the red corpuscles and hemoglobin; that it improves the appetite without disturbing digestion or producing constipation. He finds that it is acceptable to the palate and that it has a general influence on nutrition which he has never observed in the use of any other form of iron.

He has found that the dose ordinarily suggested for children (one or two teaspoonfuls in water) is often too small. The dose may often be increased advantageously to a half ounce three times daily.

The Feeding of Infants at the Time of Weaning.—LEMARIE (*These de Paris*, 1904, *Rev. Mens. des Mal. de l'Enf.*, July, 1904).—The necessary alimentation of the nursling should be established in accordance with the teachings of physiological chemistry. It should comprise a ration of maintenance and one of growth. At the normal period of weaning, this alimentary quotient would be about 72 calories to the kilogram of body weight. This theoretic figure merely represents an average, however. The coefficient of nutrition of each infant must be considered. The weight curve, the condition of the stools and the general state of health of the child are all factors to be considered in fixing the alimentary regimen.

In bottle-fed infants, it is well toward the seventh month to replace part of the milk by the yolks of one or two eggs, or by cream, in order to avoid an overplus of proteids in the diet. The weaning of a bottle-fed infant, properly speaking, takes place toward the tenth month.

From this time on infants should receive, in addition to the yolks of eggs and milk, pap and bread and butter.

The alimentary regime of a child of a year, weighing about 10 kilo-

grams, would comprise: Milk, 300 grams, 10 per cent. sugar of milk solution, 400 grams, two dishes of pap or of bread and butter, and the yolks of two eggs. This regimen would be based on the weight and not on the age of the child. If the child is underweight, this amount might be somewhat increased.

Under the influence of various pathological conditions, some of them very mild, such as difficult dentition, slight attacks of bronchitis, eczema, etc., the weight curve may undergo marked oscillations. The amount of food may not always be increased under such circumstances; indeed, it may even be necessary to temporarily diminish the quantity of food, even during a period of loss of weight. The weight curve alone is not an altogether satisfactory index of the condition of development, or of the correctness of the kind and amount of the food to be given. The condition of the stools affords information of great value in this connection.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

Paralytic Deformities and Their Modern Treatment.—J. JACKSON CLARKE, M. B. (Lond.), F. R. C. S. (*London Practitioner*, September, 1904).—The first principle in the treatment of these cases is to see that there is no unnecessary interference, and when operative treatment is decided upon it should only be carried out with full knowledge and mastery of any instrumental after-treatment that may be necessary.

The great advantage gained by cases of paralysis when Stromeyer gave them the benefit of subcutaneous tenotomy some seventy years ago, has, in the writer's opinion, been increased many-fold by the use of open operation. In fact, he leans to the substitution of old blind subcutaneous work by the more rational method of seeing what one is doing.

There is a wide range of paralytic conditions which demand surgical interference; these are: (1) Cerebral paralysis, especially infantile spastic paralysis; (2) spinal paralysis, *e. g.*, compression-paraplegia, infantile paralysis or polio-myelitis, spinal spastic paralysis, locomotor ataxy, Friedreich's disease, progressive muscular atrophy, etc.; (3) deformities arising from lesions of the peripheral nerves, *e. g.*, of the upper root of the brachial plexus in "obstetrical palsy," peripheral neuritis, etc.; (4) deformities caused by ischæmic paralysis, in which nerve endings, muscles and fibrous tissue are all concerned. To mitigate these conditions we have the following procedures: (1) Massage and manipulations; (2) simple instrumental guidance; (3) tenotomy and myotomy; (4) plastic operations on tendons; (5) arthrodesis; (6) partial craniectomy, laminectomy, costo-transverse-ectomy and other operations on the spinal cord; (7) nerve suture and nerve transplantation.

The writer gives a series of cases which illustrate well the advantages of some of these operations. He gives a method of elongating the tendo Achilles by making a Z-shaped division subcutaneously. He speaks hopefully of nerve operations, saying that they should hold first place in our thoughts as being directed nearer to the anatomical seat of the lesions, but more time must pass before we may give judgment as to their exact value. In infantile spastic paralysis especial attention is called to the fact that operation is not alone indicated to relieve deformity, but is also needed in cases where deformity is not present, but where the spasticity prevents a gait approaching normal or prevents exercise. In spastic paraplegia he reports good results following the excision of portions of tendons.

Report of Experiments to Determine Whether Plaster of Paris Contracts or Expands in Setting.—J. TORRENCE RUGH, M. D., Philadelphia (*American Journal Orthopedic Surgery*, August, 1904).—Twenty-four experiments were made using all the varieties of gauze and the different kinds of plaster of Paris. Water at different temperatures, with salt and without salt. In all cases the plaster expanded slightly; though the amount of expansion is very small, it settles the fact of no small importance to the profession at large that there is no cause for fear that a pressure sore will result from a plaster bandage contracting.

The Final Results in Tendon Transplantation.—PROF. DR. HOFFA, Berlin (*American Journal Orthopedic Surgery*, August, 1904).—In order to achieve good results in tendon transplantations four conditions are necessary: (1) Perfect asepsis. (2) Prevention of hemorrhage. (3) Healthy muscle material. (4) The tendons must be united under certain tension. The old operation, that of Nicoladoni, and the new operation of Lange should go hand in hand, one does not exclude the other. To get good results one must have a large operative experience with these cases; success depends also on the amount of tension put on the tendon, that the muscle may regain its normal tone and elasticity. Deformities must always be corrected before the tendon grafting is attempted. And the after-treatment is of the greatest importance. Apparatus should be of such a character that it may be removed to allow exercise and massage, electricity and gymnastics. Dr. Hoffa states that he showed last April to the German Surgical Society fifty cases that had been operated upon by him, and that even his German colleagues, who are inclined to be skeptical, were astonished at the good results obtained.

Surgical Procedures for the Relief of Infantile Paralysis of the Lower Leg.—JOHN DANE, M. D., and DAVID TOWNSEND, M. D., of Boston (*American Journal of Orthopedic Surgery*, August, 1904).—Fifty consecutive cases were taken from the records of the Children's Hospital in Boston. These cases had some years before undergone operations for the relief of paralysis, and an attempt was made to find out the present condition of the limbs as regarded their usefulness for support and locomotion. Fourteen of these could not be traced, but a table is given of

the forty operations performed on the remaining thirty-six. The conclusions from this table are as follows:

1. That in all cases where the peroneus tertius or extensor longus hallucis were transplanted in order to restore the balance of muscular powers, the transplanted muscle has failed to hypertrophy to an extent sufficient to cause benefit. (Eleven such cases fail to show any improvement.)

2. That simply shortening the extensor tendons in cases of equinus, even aided by transplantation of the flexor longus hallucis, is of no permanent benefit. (Two operations, both followed by relapse.)

3. That where the peronei are inserted into a paralyzed tendo Achillis for the relief of calcaneus the result is usually disappointing. (Five operations, the result in four being distinctly poor and in one only fair.)

4. That in cases where the peronei are transplanted to the inner side of the foot for the correction of valgus deformity the results are slightly better, but there are relatively few successes. (Six operations; two poor, two fair, two good.)

5. That where a portion of the tendo Achilles is transplanted to the extensor side of the foot for the relief of equinus the condition is distinctly improved. (Two operations, that in which the tendon was joined to the common extensor giving a stronger foot when it was united with the anterior tibial.)

6. That the best results following tendon transplantation were in cases where the whole or a portion of the anterior tibial was transferred to the outer side of the foot for the relief of equino-varus. (Three operations, showing two good results and one fair.)

7. That astragalectomy uniformly yields a good, useful foot. (Three cases, all successful.)

8. That the results of arthrodesis of the tibio-astragaloid joint are, as a rule, excellent. (Nine operations, with seven good results, a stronger foot resulting than where astragalectomy had been done.)

It would seem, therefore, that tendon transplantation may in certain cases yield a satisfactory result, the selection of cases should be careful and that a majority of cases will obtain stronger, more useful feet by the use of astragalectomy or arthrodesis.

The Treatment of Crushing Injuries Involving One Articular Surface of an Interphalangeal Joint.—JOHN G. SHELDON, M. D., Telluride, Colorado (*N. Y. Med. Jour.* and *Phila. Med. Jour.*, July 23, 1904).—In the American Text Book of Pathology, page 709, the following statement is made: "After resection of a joint the ends of the bones may become united by fibrous or bony tissue; bony resorption and apposition may in time remodel the ends, which become covered with connective tissue and a new joint is produced, the lining of which may even secrete a synovial fluid." The writer states that he has not seen this to be the case, but he presents five cases where one end of a phalanx at a joint was crushed, the joint surface of the other phalanx was not injured, a resection of the injured bone and a moulding of the end to fit gave a useful articulation. The main object of the paper is to point out that amputation in these cases is seldom necessary.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

A Case of Brain Tumor Following Trauma.—LIEFMAN (*Berl. Klin. Woch.*, September 5, 1904).—This is a report of a case of brain tumor in which the etiological relation between the development of the symptoms pointing to the presence of a growth in the brain and the existence of a preceding tumor seems well established. The importance of trauma as a cause for tumor of the brain has always been a much mooted question, Bergman especially being very skeptical in regard to it. It is necessary that all such cases should be carefully studied, so that the relationship may not be ascribed to coincidence. Case, March, 1900, a patient received a blow on the head, as the result of a fall. In December the first appearance of symptoms, among which were severe headache and convulsive movements in the arm. Soon followed convulsive movements in the left arm and leg, with periods of unconsciousness lasting two hours. An examination showed the presence of optic neuritis and other indications of the presence of a cerebral growth. At the operation a sarcoma was found on the motor center lying beneath the scar of the old head injury. This latter point seems to be the essential proof of the relation between the trauma and the subsequent development of the tumor.

Blood Serum Treatment of Epilepsy.—GERHARTZ (*Neurologisches Centralblatt*, No. 18, 1904).—There have appeared several accounts of work done to substantiate the work of Ceni in regard to the good results in the treatment of epilepsy by serum obtained from the blood of epileptics. None of the results appear to prove the contention of Ceni. This is a further negative piece of work. Two epileptics were injected with a serum obtained in part from their own blood and in part from the blood of other epileptics. Each one received ten injections. No special influence was observed either during the time of the injection or a half a year after the treatment. There was no effect upon the physical state of the patients, a result which Ceni observed in his cases. The importance of these negative results is not very great on account of the small number of patients experienced upon, yet the question of the influence of serum upon the course of epilepsy approaches nearer a decision by work of this kind even if the material is very limited.

An Account of the Care of the Insane in Belgium, and Particularly in the Colony of Gheel.—MASOIN (*Journal of Nervous and Mental Diseases*, No. 9, 1904).—Attention is called to this article because it is the first readily accessible account in English of the famous colony of Gheel which, ever since the middle ages, has been given up to the treatment and care of the insane. The account here referred to gives a short history of the origin of the colony and of its subsequent development under the control of the state in the line of what must be considered the most

rational method of treating the insane. In 1902 there were almost 2,000 patients living in the colony, many of them active and apparently useful citizens as far as the individual capability of each was concerned. The village is divided into sections, each of which is under the charge of an experienced alienist who visits each case at definite intervals, depending upon the gravity of the disease. Careful records are kept and are transmitted to the medical director of the colony. There is also a central hospital where the very sick or the uncontrollable are treated. In connection with this there is a laboratory for the study of the post-mortem material and for the investigations of scientific problems in the treatment of the insane. The account given in this paper should be read by those interested in the care of the insane. This colony represents the furtherest development of the non-restraint idea and its results are worthy of the most careful attention.

The Formation of Spaces Between the Teeth; An Early Diagnostic Sign in Acromegaly.—W. W. GRAVES (*Monatschrift fuer Psychiatric und Neurologie*, July, 1904).—This is an important contribution to the problem involved in the diagnosis of acromegaly. Three cases of this disease form the material of this study. The author's conclusions which are in every way substantiated by the cases quoted are as follows: 1. The symptom of space formation between the teeth in acromegaly is explained by the pathological changes which are already well known. 2. In the great majority of cases it is the first observed change in the jaw. 3. In a previously normal mouth this symptom may be observed a long time before that of progenia has made its appearance. 4. The definite establishment of the existence of this space formation between the teeth in connection with the other well-known prodromal symptoms of the disease permits of the establishment of the diagnosis of acromegaly without the other signs of the enlargement of the body in other places. For the reason that there is no other abnormal condition except acromegaly which unites at the same time an hypertrophy of the whole lower jaw without any inflammatory processes which can cause a separation of the teeth.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Repair of the Urethra by Transplantation of the Urethra of Animals.—PRINGLE (*Ann. Surg.*, September, 1904).—Here the author describes two cases of men who had sustained a complete and extensive rupture of the urethra in the perineum, and one of a boy with hypospadias, treated by grafting into the tissues portions of the urethra of the ox. The treatment of these three patients represents five operations in which portions of an animal's urethra, varying in length from five to thirteen centimeters, have been implanted with success; that is to say, the grafted tissue lived and remained a patent channel. It is true that in two of the

patients the procedure required to be done a second time, but in each of them, at the time of the second operation, the tissue which had been grafted on the former occasion was found to be present. It was in the penile region which gave the trouble in the two patients, and this was due to the extreme difficulty there is in adequately maintaining this part in a state of rest; but where the graft was placed in the perineal region the result was excellent.

Total Enucleation of the Prostate for Radical Cure of Enlargement of That Organ.—FREYER (*London Practitioner*, September, 1904).—In the present article the author deals in detail with the after treatment of prostatectomy according to his method of enucleation.

With the delivery of the prostate from the bladder the essential part of the operation may be regarded as completed. The bladder is then irrigated with hot boracic lotion, through the catheter still *in situ*, to remove clots and control bleeding. This proceeding should not, however, be continued for more than two or three minutes, as these irrigations not unfrequently promote bleeding instead of diminishing it. A stout india-rubber drainage tube is now introduced through the supra pubic wound; a seven-eighth-inch tubing with a lumen five-eighths of an inch in diameter is used, and this should project into the bladder only sufficiently for its opening to lie completely within the cavity. On no account should the tube be inserted into the prostatic cavity. The edges of the parietal wound are brought together around the tube by silk-worm gut sutures. No sutures are inserted into the bladder.

After again irrigating the bladder, a couple of inches of broad iodoform gauze tape are inserted in one angle of the wound against the side of the tube and left there twenty-four hours. Gauze dressings are now applied.

The bladder should be irrigated once daily with warm boracic lotion or a weak solution of permanganate of potash. During the first few days there should be very little pressure of fluid on the bladder, the irrigating can being held a little above the level of the patient's abdomen, so that the lotion flows into the bladder and out again through the drainage tube with very little force. The patient should lie on his back twenty-four hours, after which he should be placed alternately on either side and on his back. Bleeding should be combated by raising the foot of the bed and hypodermic injections of ergotin; pain and spasms of the bladder by hypodermic injections of morphia. After the first twenty-four hours the patient's head and shoulders should be raised to obviate hypostatic congestion of the lungs. No catheter is introduced into the urethra for the purpose of irrigation until the suprapubic fistula has contracted to such narrow dimensions that it will not admit the nozzle of the irrigator. The bowels should be freely moved for three or four days before the operation, and then left undisturbed until three or four days after the operation. Several cases are quoted in illustration and the author's statistics are given.

Suprapubic Enucleation of the Prostate.—WALKER (*Inter. Jour. Surg.*, September, 1904).—The third lobe of the prostate is a misnomer, for it is nothing more than a projection, pedunculated or otherwise, from either

one lobe or the other. Aside from its smooth, tough, fibrous capsule, it has a fibrous sheath, which becomes thinner as the gland hypertrophies and pushes its way upwards and forwards. In fact, when the gland becomes very large, the recession of the sheath is such that the hypertrophy is covered only by vesical mucosa.

The removal of the prostate, or a part, may or may not modify the sexual function, depending upon how much injury is done to the ejaculatory ducts. The sexual function once learned is rarely ever lost entirely, as has been shown in numerous instances after a complete emasculation or double vasectomy. Fecundation, however, is another question. The time of commencement of a prostatic hypertrophy is much earlier than formerly was supposed. Cancerous enlargement of the prostate is not infrequent, and not suspected as such, being regarded as simply one of senile hypertrophy. Many men with enlarged prostates go through life with but little inconvenience until infection takes place.

The conditions that call for a surgical attack upon the prostate are: First, persistent urinary obstruction, with or without inflammation of the gland, bladder, or both. Second, frequent and [painful] micturition. Third, a permanent catheter life. These conditions derive but little in the way of permanent relief, either from local treatment or medication.

The perineal and suprapubic routes are regarded as the best avenues of approach, and, while it cannot be denied that in the hands of a few the use of galvanocautery through the urethra has been very successful, yet in the hands of the many it has proved very disastrous. If used at all, a perineal section should first be made and the electrocautery used after the method of Chetwood and Young. Nineteen prostatectomies by the perineal route with the mortality of two are reported, and nine suprapubic enucleations with one death. The author's method of operating is practically that of Mr. Freyer

A Radical Operation for Malignant Neoplasm of the Urinary Bladder.—BERG (*Ann. Surg.*, September, 1904).—It is proposed to open the perineal cavity by a three-inch incision just above the symphysis pubis, and, after packing away the intestines with moist gauze (with the patient in the Trendelenberg position), to divide the peritoneum of the pelvic floor straight across. The peritoneum is then bluntly raised up from the pelvic floor to the level of the bifurcation of the common iliac artery, where the ureter, previously catheterized, is easily identified. The glands and lymphatics along the internal iliac artery, together with the surrounding loose cellular tissue, are removed. If the ureters are involved they may be exsected and afterwards transplanted into the bladder fundus. The bladder is now opened and the neoplasm widely excised. The bladder wall is sutured and the entire pelvic floor drained with gauze; in the female through the vagina; in the male by a counter perineal incision, between the rectum and the prostate. The writer feels that the possibility of effecting a lasting cure justifies the proposal of this operation. Either we must remove the glands and lymphatics together with the neoplasm, or else give up the hope of curing our patients. Two cases operated upon in this wise are reported.

The Best Method of Operating to Effect a Radical Cure of Senile Hypertrophy of the Prostate Gland: Based on the Study of One Hundred and Fifty Radical Operations.—HORWITZ (*N. Y. Med. Jour. and Phila. M. J.*, August 6, 13, 20, 1904).—The operations of Bottini, the perineal and suprapubic methods of attacking the prostate are given full consideration. The author believes that prostatectomy is always attended with more danger than the Bottini operation, and the convalescence is more prolonged. In suitable cases the latter operation is, therefore, the one of choice. Of the prostatectomies, the author prefers the perineal method as advocated by Bryson, slightly modified by the author, and regards the attempts made by other operators to save the ejaculatory ducts as illusory. The suprapubic method is relegated to those cases unsuited to either of the above. It is noteworthy that the dangers attendant upon daily catheterism are considered greater than those of a radical operation performed at the onset of the symptoms caused by the obstruction, and that the proper time to perform a radical operation is reached as soon as it becomes necessary for a patient to resort to daily catheterism.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

On the Employment of Antistaphylococcic and Antitubercular Vaccines.—By DR. A. E. WRIGHT and CAPT. DOUGLAS (*British Journal of Dermatology*, August, 1904).—Dr. Wright demonstrated before the Dermatological Society of London, on June 8th last, his views on the subject of inoculation against the tubercle bacillus and staphylococcus. He believes that this subject has a wider application than dermatology. His experiments have been largely against surface infection. He has been working upon the process of immunization and believes that with this we can obtain better results than by local antiseptic treatment. A considerable percentage of cures being the result of the protective substances which the organism evolves within itself, Dr. Wright undertook to learn the relative amount of this protective substance in the blood of tubercular or staphylococcic patients, in the pus from the abscesses and in the blood of normal persons. It was found there was very much less of the protective substance in the blood of the patient affected than in the blood of a normal man, while in the pus from the abscess the amount was almost nil. If the normal amount of protective substance be represented by 1, the protective substance of a subject of staphylococcic invasion will be .3 or .4 or .6. He concludes that the infection by a particular micro-organism means that the patient possesses a small power of resistance and has less protective substance in his blood. He then takes up the study of the cause of events after the inoculation of a vaccine, by a vaccine meaning any substance that, on being inoculated into the body, will cause the generation of a protective substance. After ascertaining the amount of protective substance in a man's blood, he

inoculates with a sufficient amount of vaccine to produce constitutional symptoms and there results a diminution of protective substances in the blood. That period of diminution he terms the negative "phase," and it is followed by stimulation. Immunization must produce a negative phase, and it is not possible to get the body to do anything without first stimulating it, and the stimulus consists in the application of this poison to the cells, using up whatever protective substance is in the blood. By exercising care the negative phase can be made a small one. Following the negative phase a positive phase develops showing the production of protective substances in the blood. If one could keep the protective power of the blood up to the height it then attains, one inoculation would be sufficient. As a matter of fact, several inoculations are necessary, for the reaction gives way in a short time, though the protective power of the blood never goes quite as low as it was before the inoculation. As to the question of technique, Dr. Wright first of all makes the vaccine. In the case of staphylococcus, he makes a culture, and, as it is undesirable to inoculate virulent staphylococci, he kills them by keeping in a temperature of 60° for a certain time. A very small amount of carbolic acid (about $\frac{1}{2}$ per cent.) is added to prevent contamination. It is then counted. This is done by mixing with a volume of the bacterial culture a volume of blood. It is stained and examined and the number of staphylococci are compared with the number of red blood corpuscles, the calculations based on the supposition that there are five thousand millions of the red blood corpuscles to the cubic centimeter. The process of inoculation consists of the sterilizing and introducing of the syringe. After an inoculation of typhoid bacteria the blood test will show an increase of two thousand times in bactericidal power, but it gains nothing in that power after an inoculation of staphylococcus, but there is produced a substance which paralyses the staphylococci, makes them subject to phagocytosis and alters them so that the white blood corpuscles can afterwards ingest them, hence the name of opsonins, from the Greek word "to cook," which Dr. Wright has applied to them. The white blood corpuscles are not altered in the course of the immunization; the only thing that is altered is the serum, which becomes richer in opsonins. In connection with tuberculin, it has been found that opsonic substances exist in the blood for tubercle. It has been found that after inoculating the patient with tubercle vaccine, giving the proper interspaces, there is an increased phagocytic power of the blood.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

On the Surgical Treatment of Laryngeal Tuberculosis.—KRIEG (*Archiv. fuer Laryngologie und Rhinologie*, Band 16, Heft 2) compares the present status of the surgical treatment of laryngeal tuberculosis with that of ten years ago. At that time energetic treatment was generally em-

ployed. According to the literature on this subject, the majority of laryngologists have gradually given up radical surgical procedures, and confine themselves to disinfectants and antibacterial medication, while a comparatively small number still employ cutting instruments and only a very few employ the galvano-cautery to destroy the disease process. The author points out that when a tubercular infiltration occurs on the skin, tonsils or any other portion of the body, every effort is made to remove or destroy it. He also calls attention to the post mortem findings showing that a great many cases of tuberculosis of the lungs heal spontaneously, while, on the other hand, a spontaneous cure of laryngeal tuberculosis is exceedingly rare. According to statistics, about one-third of all cases of tuberculosis of the lungs are complicated by laryngeal tuberculosis. The importance of this complication is at once apparent. The writer, therefore, urges early energetic treatment. Krieg believes all other forms of treatment have no value. The author is an enthusiastic advocate of the galvano-cautery for destroying the tuberculous process. Its advantages over cutting instruments are that all points in the larynx can be reached with it, which is not the case with the former. If only a dull red heat is employed no bleeding follows and very little reaction occurs. A tabulated report of sixty cases of laryngeal tuberculosis is given in which a cure was brought about; some of the cases have been under observation since 1888 without recurrence of the trouble.

On the Paracentesis Question.—BURKNER (*Archiv. fuer Ohrenheilkunde*, Band 62, Heft 3 and 4).—In order to determine whether the majority of cases of acute otitis media are better treated without performing a paracentesis, as claimed by Zaufel and Piffel, the writer has carefully observed forty-four cases of acute otitis media, and compared the results he obtained when an early paracentesis was performed in all cases in which there was severe pain, fever and a bulging and reddened drum membrane. The author found that when an early paracentesis is performed the disease will run its course in about one-third the time, the suffering of the patient will be greatly lessened and serious complications less frequent.

The Application of Eucainum Lacticum in Otological and Rhinological Surgery.—KATZ (*Therapeutische Monatshefte*, August, 1904).—The author has been experimenting with the lactate of eucaine as a substitute for cocaine. He has used this preparation in twenty different cases (various minor operations on the nose and ear) and finds that the anesthesia produced by it is equal to that of the muriate of cocaine. The drug was employed in 10 and 15 per cent. solutions and applied in the same manner as cocaine is ordinarily applied. The advantages claimed for it are that it is decidedly less toxic, and that it causes no shrinking of the tissues, which is a decided advantage in some operations on the nose and ear.

On the Treatment of Ozæna.—SIZIEMSKY (*Roussky Vrach*, rev. N. Y. *Med. Jour.*, September 17, 1904) has collected from the literature one hundred and ten cases of ozæna treated by means of the diphtheria anti-

toxin. Of these cases, 22 per cent. were permanently cured, 6 per cent. almost completely cured, 37 per cent. improved, 24 per cent. temporarily improved. In 8 per cent. the result was uncertain because the treatment had been abandoned too early, and in 3 per cent. the results were negative. It appears from this statement that diphtheria antitoxin is a remedy which gives favorable results in most cases of ozæna. While the theoretical basis of this treatment is as yet not completely worked out, clinical results have been so satisfactory that it may be considered as a fairly trustworthy method. The author reports two cases of ozæna which he treated with success with the anti-diphtheritic serum. The theoretical basis of this treatment should not be looked for, as some have done, in the similarity of the germ of ozæna to that of diphtheria, but in the similarity of the toxins of these two affections in a chemical sense.

Need of More Accurate Knowledge in the Diagnosis and Treatment of Chronic Suppurative Otitis Media.—MCCAW (*Medical News*, August 27, 1904) says that the importance of chronic suppurative otitis media in the early application of appropriate treatment should be fully appreciated by every practicing physician. He ventures the opinion that many patients die from intracranial complications in which the chronic suppurative middle ear disease is never recognized as a causal factor. The writer's conclusions are:

1. Chronic otorrhea is not given the importance that its gravity demands.

2. In all cases the treatment should be based on the pathological condition present.

3. In addition to proper attention to the nose and nasopharynx and all minor surgical procedures, appropriate treatment to the middle ear will yield good results in a large percentage of cases.

4. Where caries is limited to the ossicular chain, and there are no contra-indications, ossiculectomy should be the operation of choice.

5. Cases presenting symptoms of extension beyond the tympanic cavity should be subjected to the radical operation.

Two Cases of Abscess of the Cerebellum Cured by Operation.—ALT (*Monatsschrift fuer Ohrenheilkunde*, July 1904).—The writer reports two cases of abscess of the small brain cured by operation. In one case the abscess occurred during the course of an acute otitis media; in the other during the course of an old suppurative middle ear trouble. In both cases the abscesses were the result of a direct extension of the inflammatory process of the bone to the dura mater and from there to the brain surface. In both cases a fistulous opening in the dura led directly into the abscess cavity. In both cases the surface of the small brain was broken down by the inflammatory process. The abscesses contained about a teaspoonful of pus each. In the one case the operation was performed according to the method of Jansen, and in the other according to the method of McEwen.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

I. Opaque Nerve Fibers Extending Over a Large Area of the Fundus, Including the Macula. II. Patches of Opaque Nerve Fibers Separated from the Optic Disk.—C. O. HAWTHORNE (*Ophthalmoscope*, September, 1904).—These cases are interesting as varying notably from the usual appearance of opaque nerve fibers. Ordinarily one or more lustrous white patches are seen to jut out from the disk margin. Central visual acuity is not impaired, although the area of the blind spot may be increased.

In Case I the opaque nerve fibers completely encircled the disk and extended over and beyond the macula. The disk itself was only slightly involved. The macular portion presented some irregularity of surface, but was not fibrillated. V-O. The fellow eye was normal.

In Case II the opaque nerve fibers were situated in two groups and separated from the disk by a clear interval of normal fundus. V. normal.

Neuropathic Heredity a Possible Etiologic Factor in Paralysis of the Rectus Internus.—DE MICAS (*La Clin. Ophthalm.*, August 10, 1904).—Syphilis, tabes, multiple sclerosis, diabetes and intoxications are some of the causes of ocular paralyses. In two cases of doubtful etiology recently observed, de Micas obtained the following family histories:

In Case I the father suffered from loss of memory and a shaking palsy; the paternal uncle was an alcoholic, the mother was extremely nervous and suffered from photophobia; the maternal aunt had severe nervous attacks; the maternal great-uncle was an epileptic, and the paternal cousin was an idiot.

In Case II the patient's brother died of meningitis, the maternal aunt was an epileptic, and the maternal uncle was an alcoholic and suffered from delirium tremens.

An Unusual Dilatation of the Superior Temporal Artery and Vein of the Retina.—B. L. MILLIKIN (*Arch. of Ophthalm.*, September, 1904).—In a boy of fifteen the superior temporal artery and vein were found enlarged to three or four times the diameter of the other vessels. The dilatation was present at the point of emergence from the optic disk and maintained a uniform caliber as far as the vessels could be traced. Toward the periphery tortuosity was marked; black pigment deposits and a patch of apparent choroiditis were situated near the venous loops. Vision in both eyes was normal.

The condition was thought to be congenital.

Note Upon the Size of the Pupil in Iritis.—H. HERBERT (*Ophthalmoscope*, September, 1904).—The text books invariably give as one of the diagnostic signs of iritis "a small pupil." Herbert's experience in India is somewhat at variance with this statement. He finds that in un-

treated cases of iritis, iridocyclitis and iritis secondary to corneal affections the pupil of the affected eye is somewhat larger than the pupil of the sound eye in distant fixation in ordinary daylight.

When the iris is merely hyperemic the pupil may be small as the result of spasm of the sphincter. During acute inflammation the same effect is due to anchoring by posterior synechia, and later still from the shrinkage of a pupillary membrane. In severe cases paresis of the sphincter may account for a slight enlargement of the pupil.

The Subconjunctival Injection of Cocaine in Cataract and Other Operations.—CARL KOLLER (*Ophthalmoscope*, September, 1904).—In order to secure satisfactory anaesthesia of the iris in cataract and other operations Koller recommends the following procedure: The conjunctiva is anaesthetized in the ordinary manner. Two or three drops of a 5 per cent. solution are injected under the conjunctiva at a point opposite the primary puncture. In five minutes the pupil will be dilating, and the operation, including the iridectomy, can now be performed painlessly. In operating on non-inflammatory glaucoma Koller uses a mixture of pilocarpin and cocaine. In operating for acute glaucoma general anaesthesia is preferred.

A Bacteriological Study of Trachoma, with Remarks on the Occurrence of the Influenza Group of Bacteria in Conjunctivitis.—A. KNAPP (*Arch. of Ophthalm.*, September, 1904).—Knapp concludes as follows:

1. An influenza-like bacillus identical with the Mueller "trachoma bacillus" was found present in eight out of one hundred and twenty fresh cases of trachoma examined. It was present in the greatest number in a case of clinically "acute trachoma."

2. This organism could not be differentiated from the true or pseudo-influenza bacillus—morphologically, culturally or by animal experimentation.

3. It seems probable that its presence in these cases of trachoma was accidental.

4. There is an influenzal conjunctivitis without other manifestations of influenza.

5. The Koch-Weeks bacillus is not identical with the influenza organism.

BOOK REVIEWS.

INTERNATIONAL CLINICS, VOL. II. Fourteenth Series, 1904. Philadelphia: J. B. Lippincott Co. 1904.

The chief interest in this volume lies in a series of beautifully illustrated articles on tropical diseases. After a general article on the spread of diseases by insects, there are taken up in turn sleeping sickness, malarial hemoglobinuria, uncinariasis, liver abscess, beri-beri, etc., to end with a suggestive article by Dr. Duncan, of the London School of Tropical Medicine, on the treatment and mode of life to be pursued on return to a cold climate by those suffering from the commoner affections incidental to a sojourn in tropical climates. Four articles on treatment, three on medicine, five on surgery and one each on pediatrics and rhinology, complete the volume.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. For Students and Practitioners. By JAMES NAVINS HYDE, A. M., M. D., and FRANK HUGH MONTGOMERY, M. D. Seventh and revised edition. New York and Philadelphia: Lea Brothers & Company. 1904.

This volume is illustrated with 107 engravings and 34 plates in color and monochrome. The latter are not of unusual excellence, but they portray very well the types of disease. Drs. Hyde and Montgomery's treatise has always had a high rank among text-books on diseases of the skin. This revised edition is very thoroughly up to date, including the new forms of electrical treatment of skin diseases, namely, x-ray, high frequency, etc. The chapter on treatment of eczema is particularly good and gives the reader a definite outline of the proper manner of procedure in each type of the disease. We can thoroughly recommend the volume to those for whom it is intended.

RADIOTHERAPY, PHOTOTHERAPY AND HIGH FREQUENCY CURRENTS. The Medical and Surgical Applications of Radiology in Diagnosis and Treatment. By CHARLES WARRENNE ALLEN, M. D., Professor of Dermatology in the New York Post-Graduate Medical School. Octavo, 618 pages, 131 engravings and 27 plates. Cloth, \$4.50 net. New York and Philadelphia: Lea Brothers & Company, Publishers.

With the books of Williams, Pusey, Freund and Allen we are quite thoroughly supplied with text-books upon light treatment, yet the progress in this line of treatment has been so rapid in the last few years that new books upon the subject are not unnecessary, for they bring before the reader not only one investigator's experience but a thorough and critical review of the literature to date. This book of Dr. Allen's brings the subject up to the date of publication and gives in a very clear manner the different procedures and practical application of these different forms of energy in the treatment of disease and also the various theories regarding them. The book is well worth a careful reading and is a fair and unbiased representation of the subject. As a work of reference and for practical instruction in the various forms of electrical energy used in the treatment of various diseases, it can be highly recommended.

A PRACTICAL TREATISE ON GENITO-URINARY AND VENEREAL DISEASES AND SYPHILIS. By ROBERT W. TAYLOR, A. M., M. D. Third edition, thoroughly revised. New York and Philadelphia: Lea Brothers & Company. 1904.

This volume, so widely known, we are glad to say has reached a third edition. No one in this country has a greater reputation as a syphilographer than Dr. Taylor, and his long and varied experience is portrayed in this most valuable volume. The subject of gonorrhea in both sexes, in all its varied phases and complications, is thoroughly discussed and various fallacies and dangers graphically pointed out. Numerous excellent plates illustrate the different syphilitic eruptions, and the text is replete in its discussion of this protean disease. The treatment of syphilis receives special attention and is happily practical, including all of the various methods of introducing mercury into the system. There are 163 illustrations and 39 plates in color and monochrome.

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ORIGINAL ARTICLES.

STRABISMUS: THE NECESSITY FOR ITS EARLY TREATMENT.

By HARRY C. BAKER, M. D., of Boston.

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In presenting this paper I make no apology for the fact that it contains nothing new—for Claude Worth, of London, has written an exhaustive monograph on the subject—which contains far more than I shall have occasion to write. I simply add my mite to his strong plea for the early and scientific treatment of squint, because the general practitioner is usually far too busy to read lengthy monographs on special subjects—and it is to him I wish to urge my plea for early treatment, he being in the position of family advisor, and sees the children through their various ills, some of which actually predispose toward squint in the presence of another condition, about which I shall write more at length later.

I have in mind the convergent squint, because this type is by far the more common and practically the only kind which occurs in infancy and early childhood, or that is amenable to non-operative treatment in a large percentage of cases.

Etiology.—Most all text books in discussing the etiology of squint speak of several theories and especially favor that of Donders, who considered the tendency to abnormal accommodation in hypermetropes caused convergent squint. As Worth points out, "the vast majority of children are hypermetropic, and of these hypermetropes only a small percentage present themselves at the clinics; whereas, nearly all squinters do come at some time or another. Yet, even then, one sees at least thirty hypermetropes who do not squint for one who does." I should say the percentage was even lower, judging from a four years' experience in the refracting room of the Massachusetts Charitable Eye and Ear Infirmary, when we average from fifty to seventy-five refractive cases a day. We also know that the majority of high hypermetropes do not squint. Squint not increasing in percentage as the degree of hypermetropia increases, *i. e.*, per number of cases.

Undoubtedly hypermetropia does have some etiological relation to

convergent squint, but it is far from being the chief cause. In the same way inequality in the refractive error in the two eyes, as well as the rare case of real congenital amblyopia have some etiological relation, but have only a slight relation to the true cause.

Worth points out that the fusion faculty, that is, the faculty of fusing the images on the two retinae, is well advanced by the twelfth month, and complete by the end of the sixth year. His theory is that when the fusion faculty is well developed nothing short of actual paralysis will cause convergent squint, and therefore the essential cause of squint is a defect in the fusion faculty. This satisfactorily explains the cause of true alternating squint as no other theory does.

In speaking of etiology we cannot ignore the fact that heredity enters largely. A large majority of my squint cases give a history of heredity—an important point in connection with other children in the same family.

I shall have something to say in this paper about the method of investigating a case of squint other than that which comes under the head of—

Treatment.—How often have I heard a patient say that his doctor had told him to wait and see whether or not he would outgrow his squint. To be sure, many cases do outgrow their squint, but they do so at the sacrifice of the visual acuity of an eye. Why should we hesitate to operate a convergent squint in a small child which has refused to respond wholly to non-operative treatment, because the faulty technique of twenty years ago has been followed by an occasional divergence?

The principal point in the treatment of squint is that the case should be seen *and the treatment begun* as soon as possible after the squint has made itself manifest. A mother frequently notices her child will squint occasionally. These cases, as a rule, respond quickly and beautifully to correct treatment. She will certainly notice when the child begins to squint constantly, and then she should be advised to consult an oculist, if she has not done so before.

We find in cases of occasional squint and *early* permanent squint good visual acuity in both eyes—and for that reason treatment should be instituted as early as possible. Amblyopia ex anopsia begins early in the squinting eye and progresses often with startling rapidity. Even in very young children the visual acuity can be pretty accurately determined by ivory balls, varying in diameter from one-half inch to an inch and a half. It is possible to be able to restore the function of the retina after the amblyopia has been well advanced, and Worth reports numerous cases in which he has succeeded in re-establishing normal, or nearly normal, vision; where, when first seen, there was actual loss of central fixation in the deviating eye, but these cases were in children under six or seven years of age. After the latter age he considers the re-establishment of binocular vision practically impossible. I might add, parenthetically,

that I succeeded in one case in re-establishing binocular vision in a man of thirty-five years, who had, when I first saw him, a marked case of amblyopia in his squinting eye. From the fact that the vision is rarely restored after seven years, we can readily see the reason for early treatment. Even if we could restore binocular vision in but one case in ten the effort would be well worth while, but the results are so absolutely good that there is left no excuse for deferring treatment.

Those of us who have binocular vision do not appreciate one blessing. It is almost as much better than monocular vision as looking through a stereoscope compared with a flat picture.

The treatment, without going minutely into detail, is very much as follows: The child's eyes are atropinized either with a half per cent. solution of the sulphate of atropine, twice a day in both eyes for a week, or a one per cent. ointment of the atropine sulphate once a day for the same length of time. During the effect of the mydriatic I always have my patient's eye shaded, either with a double green shade or smoked glasses. Aside from adding to the patient's comfort, the shade aids the mydriatic in producing better paralysis of the ciliary muscle.

The patient returns for determination of the refractive error, and by far the best method for children is retinoscopy. The error found is corrected with slight spherical reduction dependent upon the judgment of the oculist. The glasses are to be worn constantly. By the time the mydriatic effect of the atropine has worn off the patient has become so accustomed to them, and dependent upon them, that he wishes them immediately upon arising. It is surprising how well small children, and even infants, bear glasses.

At each visit I measure the direction with glasses on, and also take the vision in both eyes, to see what progress we are making or to be certain there is no backward trend.

After carefully determining the refractive error, we proceed to treat the convergent eye. If this eye has good visual acuity, *i. e.*, 20-30 or 20-20 with glasses, we can either atropinize the *non-squinting eye only* once a day, which will make the patient use his squinting eye for near, and hence keep the acuity high; or else we may cover the non-squinting eye totally for a portion of each day. The former procedure is the better. The child is to report back in a month to see effect. If he still squints constantly with former squinting eye, the treatment should be continued. At the next visit, six or eight weeks after the initial one, we often find the squint has disappeared, especially when the glasses are on, or else the squint has become constant in the previously straight eye. In either case the treatment is discontinued, except for constant use of glasses.

The next visit should be soon, within three weeks, to be certain we have lost nothing we have gained. If the same condition exists we begin fusion training, which is best accomplished by an instrument devised

by Worth and called by him an amblyoscope. This instrument is made of approximately two half tubes joined together by a hinge which allows them to be separated or brought together to suit the angle of the squint. At the end of each tube is a place for object slides, which consist of devices on transparent paper. These are illuminated by electric bulbs or small lamps which can be adjusted as to intensity of light. The devices are portions of a picture which, when blended, make the picture complete; and to make the picture perfect is the object of fusion training. The training can only be done by the oculist himself. The devices are of such character to keep the patient interested. It may take many sittings before we can be sure of fusion, or before we can be certain we have failed.

Should the squint remain at a considerable angle, and we have established fusion, we can operate either by advancement of the external rectus of the squinting eye, or advancement of the external rectus combined with tenotomy of the internal rectus. The tenotomy combined with advancement is only necessary if the squint be of high degree. The same operative procedure can be resorted to in cases which have failed to respond to fusion training, but the effect will be purely cosmetic.

The cases that do fail to respond to fusion training are either of the pure alternating type, which have no binocular center apparently, and hence never fuse, or those cases of hopeless amblyopia which have become so through neglect. Therefore, again, let me repeat: Do not allow the child to "outgrow its squint," but advise early treatment, which, in the vast majority of cases, re-establishes binocular vision, which result in itself frequently restores parallelism, and the child grows up with two useful eyes instead of one, and runs no danger of being deprived of all usefulness later by the loss of that one eye through injury or disease.

THE FEMALE BREAST: SOME OF ITS NOTABLE CHARACTERISTICS AS TO STRUCTURE AND FUNCTIONS, THEIR ELEMENTS AND PATHOLOGY.

BY THOMAS H. MANLEY, PH. D., M. D., of New York.

In the study undertaken in the present instance, the aim is rather to review and somewhat critically consider various phases of interest and practical importance than attempt to submit anything that may be claimed as original. The purpose will be rather to expose many erroneous assumptions that prevail, and fallacious conclusions arrived at, in consequence of the inadequate and theoretical teachings in the anatomy of the human mamma, as set forth by the greater number of our modern authors.

My own information on the subject is based chiefly on repeated and

somewhat critical dissections of the breast, at various stages of life, in the maiden, the nursing mother and in those past the menopause. My labors in dissections had not proceeded far before it became clearly evident to me that the commonly accepted view of the structural anatomy and elements, with their relations, were in a large measure erroneous, and that there had been altogether too much servile submission to authority, too much parrot-like imitation and almost verbatim copying of authors from their predecessors without a critical investigation on their own account by anatomists. Moreover, the modern, almost useless sacrifice of mamma, for both curable and incurable lesions, since the inception of the new procedure, having forcibly impressed me that this was sustained by a misconception of the premises, it has been my purpose to discuss and determine whether my conviction could be supported or not by an examination into the functions and structures of the breast.

We find but little in contemporaneous medical literature on functions of the breast. The latest research work in this direction comes from abroad, as our country has yielded practically nothing in this direction, as though this study were a closed chapter, and that nothing more were open to investigation, while our facilities for more accurate scientific studies have so greatly widened.

General Observations.—The human breast, notably that of the female, presents many unique features of striking interest and importance. But comparatively few practitioners have made a deliberate and pains-taking dissection of it in the maiden, the child-bearing woman, or in one past the menopause, or have a correct appreciation of its essential structural characters, or of all its purposes in the economy.

We are at times prone blindly to follow authorities and take for established truths inaccurate statements or erroneous assumptions without attempting verification on our own account.

Moreover, not infrequently we encounter in current medical literature, clinical records of cases, or description of various surgical operations, wherein it is obvious that an ample knowledge of anatomy is wanting on the part of the writer, or, perchance, he has taken second-hand anatomical designation which is warranted only by tradition and has no re-existence in fact.

For example, Keith and Shilletoe in recent researches on some of the historical elements of the prepuce and corona-glandis, failed to find any trace of "Tyson's glands," which, they say, have been described by every text-book on anatomy published since Tyson's time. To quote from the latest edition of Quain's "Anatomy," they add: "Numerous sebaceous glands are collected around the cervix of the penis and coronal glandis; they are named the glands of Tyson, or glandular odoriferous, their secretion having a peculiar odor."

Keith remarks on this: "The strength of faith of the anatomists is

so great that they have for two centuries been describing glands which never existed, and, furthermore, there is no evidence that Tyson ever observed or described them himself "

Without a practical and correct knowledge of anatomy we are building on a foundation of quicksand and are liable to error at every turn. This is well accentuated when we examine critically into the structure of even so superficial an organ as the breast.

No other organ of equal importance is studied in a more perfunctory manner. This, perhaps, is because of its superficial position and the apparent simplicity of its structure and functions; and yet being more commonly the seat of inflammation and neoplastic changes than any other secreting organ of similar anatomico-histological composition, it calls for a critical study into its gross-anatomy, its finer structural elements and other special and characteristic features.

Anatomy.—We will note that the mamma is a very superficial organ—subcutaneous only—and that its larger canals open independently of each other on the surface. It is an exposed organ which constitutes an important physical adornment. It lies flat-wise spread out and aids in giving shelter and protection to the lungs, over an area anteriorly, about the same as that covered posteriorly by the scapular plate. In full development it occupies the greater forward areas of the thorax on each antero-lateral aspect. The nipple in the growing girl lies on the fourth intercostal space on a line with the cardiac opening of the stomach; from this point the lacteal tubes radiate in various directions,

Anteriorly, the mamma rests in near contact with the costal cartilages, the most elastic segment of the thorax.

The breast is a suspended organ supported in position by strong fibrous bands and by adhesions posteriorly with the great pectoral and serratus-magnus muscles over their sheaths.

Through its connections with the axilla and muscular structures it becomes a mobile organ and is consequently more or less influenced by movements of the shoulder.

From its superficial position, it is exposed to atmospheric changes, to accidental contusions, to displacement and sometimes to severe compression by clothing or tightly laced corsets. It may be said that no glandular structure is more tolerant of trauma.

The pectoral prominence maintains no uniform outline nor position, except before puberty. In various individuals it may be scarcely visible or tangible, again it may weigh from ten to thirty pounds and hang down over the abdomen, hence, though said to extend from the third to the sixth rib and to be of hemispherical outline, this is only relatively correct,

In varieties, we have the full firm breast, the heavy large fat breast, the flabby flacid or the flat, the undeveloped, the attenuated or the atrophic, shrunken.

In most instances, the very large organs depend on an excessive development of adipose tissue, volume here, being no certain index of the secreting capacity. The infantile type persists until puberty. Now we have a sudden expanse in growth of the glandular elements; another augmentation in volume obtains during pregnancy; after this a fairly uniform outline remains until the menopause, when the epithelial elements suffer degeneration and resorption.

We will therefore note four epochs of life when the functions and structures of the breast undergo conspicuous changes, Holmes Coots seems to have been deeply impressed with the importance of a full knowledge of structure here, and well says: "The surgeon who desires to discriminate accurately between the different diseases of the breast and wishes to assist the efforts of nature must never be unmindful of the peculiarities of that organ and the important functions it performs in the economy." The anatomy of the breast as described by most authors, is inadequate, faulty and misleading. Strange to say some surgeons regard it as an unimportant organ of no special significance.

The Fibrous Structures, Etc.—The breast is commonly described as "a gland with a capsule." Now it is not a gland at all, when we contrast it with the salivary, renal and other secreting organs; nor has it a distinct detachable capsule. Testut, in his incomparable anatomical work, observes "the preliminary connective tissue is not sufficiently thick nor isolated to merit the name of fibrous envelope, as given it by certain authors." Stiles, of Edinburgh, sounds a similar note when he submits—"the breast tissue is not encapsuled with a compact body, but is so broken up and branched at its periphery that the sheath becomes continuous with the superficial fascia." There is no capsule in the ordinary sense of the term: The mamma is in fact, from a structural standpoint, but a modified cutaneous body. Nor is it a single gland, but an aggregation of glands, each lobe being covered by a separate investing envelope, distinct from the others. There are from eight to fifteen of these in each breast; in various situations they are more developed than in others, the larger lying in the upper or in the axillary zone; each has a separate terminal duct at the nipple. A knowledge of this is of the greatest practical importance in dealing with lesions here, regardless of their pathology.

The French designate the breast as *une glande a grappe*, because of the arrangements of its secreting structures separated into clusters or bunches.

The functioning part of the breast is made up of scattered lobes; these divide into lobules, and ultimately sacculated terminals, the acini. The volume and firmness of the organ is more or less dependent on the degree of activity of these structures, when a thick layer of adipose tissue is absent.

The so-called capsule the fibrous fence-work of the breast presents no

definite arrangement. This is continuous with the aponeurosis of the thorax; a careful dissection of it fails to support the commonly accepted description of it, viz., that it splits into the lamella or a sheath for the secreting structures. The fascia cribosa extends down to the muscle sheaths or the submammary bursa, which at the center is posteriorly, sometimes interposed.

It can be said to only completely invest the galactiferous tubes as they approach the nipple. It has no analogue in the body, it is nearly everywhere pervious for deposits of fat.

There are prolongations of this structure in various directions on the periphery: according to Testut, the broadest or first extends towards the sternum where it blends with the sternal aponeurosis. The second extends as far up as the clavicle, the third towards the hypochondrium, the fourth sends forked projections towards and directly into the skin, the fifth towards the epigastrium and the sixth ascends to the arm pit, the axillary sling where its terminal fibres blend with the lymph nodes, the sheaths of the large nerve and vascular trunks and the capsule of the shoulder joint itself.

Another very short, but thick and dense set of well defined fibres pass directly from the nipple in and between the galactiferous ducts to the pectoral aponeurosis posteriorly. These fasciculi maintain a steady traction. They are not prone to yield in various diseased conditions of the mamma, involving turgescence or in suckling; hence we find the depressed nipple. Again we find evidence of more or less contraction of these fibres as a congenital state, producing a sunken nipple: occasionally it is so closely drawn toward the chest wall, as to become almost completely engulfed by the distending secreting elements during pregnancy. It is somewhat remarkable that little or no notice is given to this important group of fibres by most anatomists.

The fibrous structure of the breast is blended with fat and so incorporated with the secreting structures that its complete isolation is impossible. The general outline of this mat-like framework of fibrous tissue presents the form of a crab: its center the thickest, with long projecting limbs or cords extending far from this point. It contains a large admixture of yellow elastic fibre and is of a tough resisting character.

Astley Cooper taught, that "if an author would only write on what he was capable of demonstrating in connection with breast tumors, the medical world would not be overwhelmed with crude opinions, theories and conjectures." He justly attached great importance "to a proper knowledge of this very complex structure, the fibrous stroma."

The Panniculus Adiposus.—The main volume of the non-functionating breast consists of fat and a very thick dense matting of fibrous tissue, rich in elastic fibre. "This reticulum supports and protects the gland elements: it is continuous with the skin and ramifies through the breast

in every direction." The overlying layer of fat is usually very thick, with a most complex arrangement; it invests the entire interior surface, except at the nipple and areola; it dips down deeply into the fossettes of the fibrous net work, between the larger ducts to the larger posteriorly, and may be even traced into the lobes, lobules and inter-lobular spaces. It may be well to note that the investing adipose tissue is continuous with the common subcutaneous of the thorax. Hence, in fat subjects, the breasts are usually pendent, contour and volume largely depending on the extent and arrangement of this tissue. Glandular activity during pregnancy and lactation greatly distend the organ; and it undergoes marked shrinkage after weaning; probably, more or less of oleaginous substance in the investing fat layers finds its way into the acini, and is appropriated by the infant. Fat is the chief nutrient constituent of the milk, and it is natural to assume that in the human being, as in some of the hibernating animals, fat is consumed by the process of nourishing the new born. The mamma is everywhere enveloped by fat, its secretory structures rest on a base of this tissue, and fringes of it penetrate through the parenchyma in every direction. Before puberty it is scant; at midlife very abundant; in advanced age it shares with the general resorptive and shrinkage peculiar to the senile state. The fat of the breast is of a deeper yellow and a more liquid consistence than that found elsewhere in the body.

Form and Volume.—In the young female, before or after puberty, the breast lies fairly flat, inclining outward against the chest wall. But sometimes we will observe large, prominent mammas even before puberty, or in young maidens. In these instances the unusual fullness and volume are dependent on the abnormal development of adipose-tissue in those who tend to corpulency.

We know that while a uniform development of the mammary panniculus adiposus is not uncommon, localized accumulations over various mammary areas are frequently observed: As *e. g.* in one, the main mass of fat lies over the abdomen; again, one may see a female, of whom it is said she has "beef to her heels," while the upper extremities are of only ordinary development; in others, again, we will note a massive circumference of the arms, while the legs are disproportionately small; and so we may often encounter females with heavy, pendulous breasts, who are otherwise of a slight build. In many of these we will discover but scant true glandular tissue. It is important to note that the mamma is more or less movable in the upward direction by a tendinous aponeurosis extending down from the clavicle, but its movement is largely influenced by the shoulder through the pectoralis major, so that when the arm is extended upward and outward the breast is drawn far externally, almost under the axilla.

The Mammary Integument.—The skin investing the mamma is usually divided under three separate heads, viz., that covering the greater areas

of it, the areola and the nipple. The integument here is very thin, fine and not freely movable. In many women while nursing, long, blue anastomosing loops of veins are plainly discernable under the attenuated integument; numerous fibrous strands pass outward from the deep structures and so freely blend with the corium of the integument as to retain both in close relation; hence, we will find that the skin over the breast, not as in other thoracic areas, is so adherent that no sliding movement is obvious, quite the same as in the palm of the hand or the sole of the foot.

The histological elements of the mammary integument are not quite the same as we find them elsewhere. We will note here that the rete-malpighi is poorly developed, the sebaceous follicles mostly are very diminutive, the sweat glands are numerous, the greater number being very fine, with here and there large, deep tubular coils.

Creighton's follicles extend into peri-mammary fat. The rudimentary hairs of the breast are so fine as to be only discernible in various situations under a lense; long, coarse hairs, however, may be sometimes seen growing from the borders of the areola.

The Areola surrounding the nipple is of a pink or vermilion color in the maiden; in the pregnant it becomes pigmented, of a deep brown hue; this tinging, in various degrees, remains permanent. The areola has fewer, but larger sebaceous glands than the surrounding integuments. The base of the areola is in near contact, and sometimes continuous with the fibrous stroma of the breast. In its deeper meshes are lodged several very small lacteal globules, which are tributary to the larger ones in the body of the mamma.

The nipple is sometimes designated the teat; the Germans call it a "wart," which, indeed, it closely resembles. Like the breast itself, we find it of every conceivable outline. In some women it is large, full and prominent, the so-called "erect;" in others, again, it is diminutive or scarcely visible; again very large, but flat, or even inverted and deeply sunken under the skin. The nipple is a tough, elastic structure, which represents the aggregation of from fifteen to twenty separate orifices of the milk ducts, so protected by irregular ridges of dermal investment as to give its surface a very uneven, dimpled contour. Its substance consists chiefly of elastic tissue with smooth muscle fiber, the latter so arranged as to facilitate and control the flow of lactated secretions. The mammilla is an essential constituent of the secreting apparatus of the breast, being, as it were, the center which projects through the integument to the surface; it is the apex of the radiating passages, converging from numerous widely separated areas. On the surface of the nipple may be seen the papilla of each individual isolated milk duct, where it is constricted forward at its ampulla or sacculation. It contains no sudoriferous ducts, but there are numerous minute glands in its substance, for its own lubrication.

Secreting Structures.—"The full secreting development of the breast is not matured until the end of gestation," says Stricker.

The breast in function is supplied with a secreting mechanism presenting many unique peculiarities.

The quite complete separation of its lobules is noteworthy. Again, its secreting but widely scattered lacteal lobes, in some individuals, is remarkable. We may note that the situation of these is most common at the anterior border of the pectoralis major, in the armpit or even in close relation to the nipple. Koenig regards these aberrant glands as the primary origin of several abnormal changes in the mammary region, the initial occurring in their fibro-cellular investment.

Moreover, the isolated lobes vary widely from each other in contour and volume, although this is not always obvious to view, because of the overlying adipose tissue, yet in palpation a lack of uniformity can be easily discovered. From a mere minute disc about one centimeter thick and two inches wide in the maiden, the matured distended mamma of pregnancy extends from the sternum to the axillary fold, the mammilla lying nearly central over the fourth rib.

Creighton says that the first trace of the mamma's existence is made manifest by a whitish strip of tissue running through a large body of fat, into which spread from the long central tract conspicuous offshoots, the lobules and ducts developing at separate points in the matrix tissue. So passive and latent is the growth of the secreting structures that it is said they are as fully developed at birth as at any time before puberty, and to these narrow limits they again tend to return in the atrophic changes of advanced age.

The hypertrophic changes in the breast in full function is a most remarkable phenomenon. Willis, under this head, observes: "The natural increase of the gland in lactation is one of the most remarkable examples of hypertrophy which can be instanced . . . No other gland is susceptible of such periodical hypertrophy, evolution, involution of the secreting elements after nursing or marked senile atrophy, when only the tough, shrunken fibrous stroma remains, sometimes the consistence of scirrhus."

In the loose connective tissue lying between the galactiferous ducts, the ampullæ and the canaliculi of the acini in various situations, we discover many bodies of the histological character of the papillæ of the integument. Luschke designates them "kernels." He describes their circular outline, their dark center and regular contour.

The terminal ducts in the functionless state are chiefly made up of structureless membrane, but during lactation are covered by an ill-defined epithelial layer.

In no other organ do we discover such extraordinary variations in the anatomical elements of secretion, their transitional character, their frequent mutations from great increase and development to retrograde

changes and atrophy to almost a vanishing point; for it is generally conceded that before puberty and after the menopause only the tubular structures can be at all differentiated, and but indistinct traces of the acini can be discerned.

After function has ceased, the delicate branches and their finer subdivisions, the sprouts and buds sent out from the main lacteal ducts, have so faded out that only their faint outline may be now traced in a delicate brown tinge of fibrous tissue.

The Very Large Sebaceous or Creighton's Glands.—Creighton has given an extended study to what is known as "large sweat glands of man." He regards them as the primary site of malignant disease of the breast. They are found most constantly as a definite glandular patch beneath the integument at the deepest part of the armpit. They may be an inch or more in diameter and of an inch thick. They are said by Champney's to sometimes enlarge to the size of a hen's egg during pregnancy; fluid squeezed from them is milk-like, containing colostrum corpuscles. Ordinarily they secrete a foul-smelling fluid which stains the linen brown.

Zapey, Ludwig and Henle say they may range over the entire area of the thorax. Creighton found them always the most numerous between the nipple and the armpit. Chelius regarded the milk glandulæ here located as only a type of modified sweat glands.

The Lymph Vessels and Ganglia.—Of late years very much has been written about the lymph system in its relation to the numerous pathological conditions, benign and malignant, encountered in the mamma, but why more here than in any other organ is by no means clear; certainly not because our knowledge of the functions of the lymph system has undergone any special expansion of late years, nor has it been explained how a system supposed to be essentially concerned in tissue metabolism and in the absorption of the residual elements of secretion, can by any stretch of the imagination be regarded as specially active in a functionless organ, which the breast really is almost invariably when the seat of neoplastic changes. The theory is entirely untenable. Now, before we attempt to define the role of the "lymphatics" of the breast, it may be well to have an understanding of their constituent elements first.

We are informed that this system consists of "glands and ducts;" here are not included the chyloferous vessels, as they should always be considered as wholly independent of the peripheral. The gland has a capsule. "The vessels have an endothelial investment." The gland is said to have a *cortical* and a *medullary* division, its parenchyma made up of lymphoid or embryonal elements.

Now, in all my dissections on the cadaver, I have never been able to isolate a lymph vessel, nor have I been able to distinctly see one in a hardened microscope section of any tissue whatever.

On the human subject we certainly can find no such description or histological arrangement as is set forth in many works, for we can neither isolate nor expose these for inspection; nor other than blood vessels passing either into or out of the ganglia; but we may microscopically frequently discover areas of epithelia in the parenchyma of the superficial group in the axilla. What office the auxiliary ganglia perform in the economy is yet unknown, though no doubt as ductless structures they elaborate certain ferments or elements concerned in the nutrition of the body.

In this connection a few brief extracts from various recognized authorities may not be amiss.

Flint confesses that "there is much difference of opinion among anatomists concerning the intimate structure of the lymph glands, some regarding them as composed simply of lymph vessels, afferent and efferent; others deny that there is any connection between the vessels, and regard them as solitary glands, like those of the intestines."

Zappey thought he discovered a lymph plexus in the interior of the gland.

Kolliker denied the existence of this plexus, but admitted the compartments or the alveoli, which he describes as closed follicles. Zappey's view that these nodes consist of only fibrous tissue and lymph vessels cannot be maintained.

Gray describes the lymph nodes as "conglobate glands with cortical and medullary structures, the alveoli containing the proper gland tissue."

According to Klein, "the ground substance of all lymph glands, simple as well as compound, is lymphoid or adenoid tissue; leucocytogenous tissue and lymph corpuscles fill the meshes of the lymphoid."

Laboulbene views these structures in another light and observes that "these are of a glandular structure in which the epithelial elements preponderate, wherein the lymph undergoes a change of character as yet unknown. In their trabecular they arrest solid particles, mineral or vegetable."

Coplin: "The lymph glands are structurally composed of a peculiar form of cells massed."

Recklinghausen: "The lymph sinuses of the glands are lined by epithelial cells of a round and polygonal form."

Piersol: "The lymph nodes consist of oval masses of adenoid tissue united by a delicate connective tissue wall. Wheresoever found, lymph tissue consists of connective tissue elements and lymphoid corpuscles."

Kolliker: "Lymph glands nearest approach Peyer's patches, though they do not entirely correspond with them. Their parenchyma consists of fibrous tissue, pulp and blood vessels. They are not as well developed in man as they are in the dog, rabbit, cat or rat. . . . The most

difficult problem in their anatomy is to ascertain if there is any connection with the lymph vessels."

From these glands, nodes or absorbents we turn to the lymph vessels, but in these prosaic times we should be able to demonstrate the existence of them before we set out to determine their course and relations; for it certainly is unfair to make a draft on one's *faith alone* when we approach the subject. Now, there is no possible manner of proving the existence of a system of vessels like injecting it; the nitrate of silver stain is a delusion pure and simple. We find in the writings of Malpighi the first allusion to the lymph vessels, wherein he first describes those coming to and from the lymph nodes. We are informed that we may demonstrate the existence of these vessels. Reeves tells us "by exposing them we must search for them where anatomy teaches us we should find them." But anatomy does not teach us, except from a theoretical standpoint, where we can find them, because it is doubtful if any anatomist has ever seen them in the tissues of the living body. Kolliker thought he saw them in the tail of a tadpole and in the snake's intestine; but the latter were lacteals, essentially accessories to absorption in digestion. Professor Austin Flint, America's most eminent living physiologist, confesses "that the only way the peripheral lymph mesh may be injected is by passing a fine-pointed canula into the tissues where they are supposed to exist." In 1650 Rudbeck described vessels in the liver and almost every part of the body conveying colorless fluid. Shortly after, Bartholinus named them "lymph lactics." Of the functions of the lymphatic ganglia Professor Flint observes that "nothing is definitely known in this direction." He denies that they are in any manner concerned in the formation of the leucocytes. The liquid elements of the lymph, we are informed, are quite identical with those of the blood. It is highly noteworthy that lymph without blood admixture has never been obtained from the human body.

It may be, therefore, summarized that the real functions of the so-called "lymph glands" are yet unknown; certainly there is no unanimity of opinion among anatomists on their structural composition. The peripheral lymph vessels have but a dubious existence. Creighton tells us that no anatomist has yet been able to reproduce the arborescent display of them as depicted by Zappey, and he is inclined to the belief that the artificial vascularization or injection of them is probably nothing more than of the large surface capillaries.

More special consideration has been given to this class of tissues here because we hear so much of the *role* of the "lymph system" in the nulliparous as well as the multiparous, notably in neoplasms of the mamma, benign and malignant. And yet, when we appeal to the fundamental groundwork of anatomy and histology, we find absolutely nothing to support it; nor any reason why "white blood vessels" should be more concerned when the mamma is the seat of disease than any other organ.

Indeed, in the non-functionary state of the breast it is inconceivable how the lymph ganglia can in any measure influence pathological processes at all.

Function, Physiology.—Search where one will, but little can be gathered on all the physiological processes and purposes of the female mammary gland. The general impression prevails that, except as an accessory of the generative system, like the testis in the male and the ovary in the female, or as an organ for the subsistence of the new-born, it serves no important function, though it certainly is true that in many respects it resembles these organs. For example, latency of function in these seed producing organs in no manner influences the general health, though their total ablation unsexes and profoundly effects the character of the individual. Can the sacrifice of both breasts, or even of one, in any manner disorder physiological processes of the individual or be regarded as harmful in its consequences irrespective of the dangers involved in the operation itself?

It would appear that various authors have seriously considered this aspect of the question; therefore, it is with much satisfaction we quote the following from Holmes Coote, who well says: "The surgeon who desires to discriminate accurately between the different diseases of the breast, and wishes to assist the efforts of nature in these, must never be unmindful of the physiological peculiarities of this organ and the important functions which it performs in the economy."

Some of the More Unique Features of This Organ.—No other organ of its importance lies so near the surface. In full development it serves as a defense and a protection to the thoracic contents. It is an organ of dominant importance in the human female, as the mammary prominence in all ages has been regarded as a most essential attraction. Considering its exposed position, the abusive pressure of the corset, the frequently contusive pressure of it in various employments, it is remarkable how rarely it is traumatised. This is the only example in the body wherein extensive force is indispensable for the expulsion of its secretion, as in the process of suckling.

Being a pendulous organ its position is not definite. In the young, and in virgins, its investing sheath and the integument give it such support that its broad, cusp-like surface usually occupies a prominent position. After the menopause its vascular supply is very greatly diminished. At this period, Cooper claimed that its arteries were prone to degeneration. At this epoch in the life of a woman, we may note on deep pressure, that the temperature of the breast is much lower than over other areas of the body. This phenomenon is so obvious in some women as to point with certainty to the low degree of vitality maintained after the processes of reproduction have ceased. The mammilla is exquisitely sensitive to irritations. Some authors speak of an "erection" of the nipple under the influence of emotion; but there can be no

erection here, because it contains no cavernous tissue; but it is rich in elastic and smooth muscular fibre. The muscular fasciculi in the nipple mostly run in two directions, one vertical and one horizontal; others take an oblique or spiral course. In the event of large vascular turgescence with simultaneous contraction of its own, intrinsic musculature, especially, when pressed well forward by the large distended lactiferous ampullæ, the nipple certainly does become hard and so projected forward as to exhibit many features of a genuine erection. Intermittency in function in milk productions is a striking characteristic of the mamma. But has it any other important purpose than the secretion of milk? Beatson's investigations have certainly demonstrated the intimate relations existing between the ovaries and the breasts. During, and even after menstrual life, there is a well-marked chain of sympathy between the breast and the sexual organs. Inasmuch as they are symmetrical bodies and a double amputation of them for malignant diseases, is seldom long survived, it is difficult to estimate just what part these organs serve in the physiological processes. It is well known, however, that despondency with a settled melancholy is one of the earliest and most pronounced symptoms in the outset of mammary-cancer, much like the physical depression consecutive to male castration. The loss of one ovary appears to be followed by no appreciable disturbance of menstrual functions or perversion of nutrition processes; but when both are sacrificed a profound impression is made on the system.

Two cases of complete sacrifice of both breasts in young women have come under my observation; in one, a girl of seventeen years, for enormous symmetrical hypertrophy; the other, a woman of twenty-three years, whose breasts were both simultaneously removed for cystic disease. They have both since married. Neither has yet conceived, though they are enjoying vigorous health at the present time. Complete abeyance in function appears in no very marked manner to influence the general health, and spinsters, as a rule, are, on the average, quite as long lived as child-bearing women; yet, it is well known that maidens and barren women are very much more prone to degenerative diseases of the breasts than those who have reared a family and suckled their children.

Dr. Jennie D. Drenham, in a brief but learned and philosophical essay recently published, sets forth some of the evils attendant on any violations of the laws of the "physiological generative cycle." She clearly demonstrates that menstruation is essentially a pathological process. Hence the breast is, as it were, the head organ of generation, intended by nature for activity of functions from puberty until the age of childbearing is past.

Physiological dormancy of this glandular body is incompatible with its full activity and harmful to its structural integrity, especially in married women or those exposed to periodical exaltations of the sexual system.

Gynecomasia, or that singular peculiarity of form and structure in the male breast, is a remarkable phenomenon; it is said that in advancing years the breast of a man tends to acquire considerable proportions, and that at this stage of life it is quite identical in structure with the mamma of an old woman. It has long been noted that males with non-descent of the testicles, or those with undeveloped or atrophied, quite invariably have large breasts.

Peusch, in the examination of conscripts for the German army, found it to occur once in 15,000 men. Gueber found it symmetrical in thirty-five of forty-six recorded cases.

Gynecomasia occurs in two varieties; one primary, or essential, in which the outgrowth is perimammary fat. This type we may commonly observe in all corpulent males, especially those with a thick layer of abdominal fat. The other variety is essentially due to non-descent or atrophy of the testes, succeeding accident or disease; there is a large augmentation in the volume of the glandular elements of the breast. This latter condition only appears at puberty. Darwin and other investigators of the evolution creed allege that the mamma was originally equally developed in both sexes, and hence they regard this physiological deviation as a reversion process.

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THE RECOGNITION OF IMPORTANT EYE LESIONS BY THE GENERAL PRACTITIONER.*

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It is almost a clinical axiom that the eye is an index to the condition of certain systemic lesions. Seldom, though, do its lesions give rise to a direct involvement of the general system. In but a very limited number of instances do metastases originate in the eye. On the other hand, in numerous instances does a systemic or a single organic lesion involve the structures of the eye. Under these conditions the eye manifestations assume an important factor, both as to prognosis and diagnosis. Purely local ocular lesions, if they produce systemic symptoms, do so more often functionally, not organically.

The relative value of the condition of the eye in certain general systemic or even local organic lesions is not to be underestimated, particularly with reference to diagnosis. Frequently the eye presents the first manifestation of some grave systemic dyscrasia—not only with reference to tabes, brain affections and some toxic complications, such as Bright's disease and diabetes, but to many others as well.

In the detection of certain hereditary stigmata does a careful examination of the eye often yield the only convincing evidence. Furthermore, as our clientele is largely composed of so-called highly strung, nervous individuals, the contributory share of eye-strain often manifested by simple, and rather obscure symptoms, is too frequently denied the relation of cause and effect. Too often, indeed, is the explosion of pent-up nervous irritability brought about by defective eyes, which, to all intents and purposes, seem innocent.

Overzealous enthusiasts ascribe to comparatively insignificant eye lesions an important etiologic factor in no mean proportion of cases of chorea, functional epilepsy and other allied nervous disorders. In this regard the reader wishes to refrain from going as far as some of our eastern confreres, who cure nearly all such cases by the adjustment of properly fitted lenses or graduated tenotomies. In certain hæmic lesions, particularly the milder types, the patient can often be made comfortable, as far as the annoying headaches are concerned, by properly correcting the ametropia. In other words, symptomatic relief in this respect is welcome; later, however, after the cure of the hæmic lesions the eyes will be able to properly functionate without the assistance of any correction.

Not only from the standpoint of eye diseases in relation to systemic lesions ought we to discuss this question; but we shall regard it also from a purely ophthalmic viewpoint. Frequently a patient having an ocular

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lesion consults his family physician, who, not appreciating the more or less obscure symptoms, or not fully comprehending the importance of certain ones present, unconsciously leads his patient on to irreparable loss of vision, not to say at times total blindness. Far be it from me to underrate the diagnostic acumen of the present day family physician. There are, however, conditions of the eye which he apparently fails to appreciate fully either as diagnostic signs or as conditions of grave import. It is the early recognition of the condition, coupled with energetic palliative or curative measures, that in many instances saves the patient from going on to absolute blindness. Often the fullest extent of the systemic lesion is not estimated, and a fairly favorable prognosis is expressed; whereas the patient, because of eye complications, is in the very height of the development of that disease. Either way, it is not so much *through* the eye as *in* the eye that we can ascertain valuable clinical points which have a great bearing at times in solving knotty problems of diagnosis.

In regard to diabetes and nephritis, let it be said that a complete and accurate ophthalmic examination is obligatory in every instance. In either disease the fundus may first give conclusive evidence of the existing condition of the general system. Furthermore, the implication of the fundus during any stage in either disease, is as apprehensive a manifestation as could possibly appear. In either instance the patient seldom survives longer than two years. Statistics have so verified this assertion that mere mention suffices. (Belt, Bull and Suker). As nearly 30 per cent. of all chronic cases of nephritis develop a retinitis we can readily appreciate the value of this finding. In diabetes this percentage reaches as high as 20. (Lecorche, Galezowski).

The lesions of the fundus in both of these diseases are so very similar that it is almost impossible to differentiate them. He who can differentiate these two diseases merely by ophthalmoscopic examination takes too many things for granted. In each case the retinal lesion is dependent in large measure upon the principle of toxins—rather upon leucomaines. The appearance of the lesion is sufficiently familiar to render description superfluous. Early retinal manifestations not often mentioned are small, yellowish lymph nodules at the crotch of the vessels, especially of the veins. They should, however, be differentiated from choroiditis. When a patient presents the usual snow drift degenerative areas in the retina, he is or soon will be at the climax of either his nephritis or diabetes. The prognosis is then exceedingly grave, if not altogether hopeless. (Decapsulation of the Kidney for Chronic Bright's Disease, Elliott and Suker, *N. Y. Med. Jour.*, June, 1904).

In a patient requiring frequent changes in his reading glasses and complaining of basal headaches, with obscuration of vision, or so-called red sight, which is often indicative of retinal hemorrhages, an examination for nephritis or diabetes is indicated. The gravity of the lesion is

in inverse proportion to the age. The swollen or puffy lower lid neither indicates nephritis nor diabetes. Unless a true serous edema exists, with other associated symptoms, one is not warranted in suspecting either disease. No patient succumbing to a pure nephritis ever escapes the retinal lesion—it is bound to appear sooner or later in some portion of the fundus. In this connection frequent conjunctival hemorrhages are quite significant in persons at or beyond middle life. They indicate either an arteriosclerosis with its sequellæ or a nephritis, possibly a meningeal complication.

A sudden squint which fluctuates and is periodic, should always induce one to closely inquire into the possibility of lues. A paresis or paralysis of any of the extraocular muscles, especially the external rectus, associated with an irregularity in the pupils, combined with an annoying diplopia, is a fair indication of beginning tabes. The paralysis of the external rectus, associated with an Argyll-Robertson pupil, is justly indicative of tabes. Many a case remains in what is called the "ocular tabetic" stage (paresis of an ocular muscle and optic atrophy descendens) never going on to the full development of the characteristic spasticity. Many a one is of this type, nearly if not entirely blind because of a descending optic atrophy. The reason, perhaps, why the spastic stage is indefinitely delayed, is due to the forced education of the muscles. Blind people are very accurate in their locomotion though seemingly hesitating. The writer can relate several cases in which there were optic atrophy, Argyll-Robertson pupil, and complete absence of the patellar reflex, without the development of any other symptom of tabes.

It is not infrequent that patients give the entire syndrome of trifacial neuralgia and present but a mild redness of the eye. Often this redness is attributed to the neuralgia when, indeed, it is one of the prominent symptoms of the oncoming glaucoma, the *bete noir* of ophthalmic practice. As far as the similarity of the symptoms of these two entirely different diseases is concerned, it is often difficult to differentiate them save for the associated eye lesions. Every trifacial neuralgia, especially a pure neuralgia of the first branch, should entail a careful examination of the fundus of the eye as well as its exterior. The increased tension of the eye is readily elicited, and such other ocular symptoms as are diagnostic of glaucoma should be looked for. Trifacial neuralgia is an important etiologic factor in acute glaucoma, the latter frequently following in the wake of the former. Periodic neuralgic attacks with congested eyes, associated with the characteristic eyeache, should always give rise to suspicion of some variety of glaucoma. If, during these attacks, the tension of the globe does not increase, or the pupil is not moderately dilated, or the cornea not somewhat anæsthetic, or the scleral vessels do not become tortuous, or no reduction in the visual acuity results, then we can be quite certain that our patient is not

threatened with glaucoma. Should, however, any one of the former symptoms prevail, glaucoma is probably present and all antineuralgic treatment will be utterly useless. This condition of affairs occurs not so infrequently in those beyond middle age and preferably among women. A neuralgia of all the branches of the fifth nerve is not so easily confounded with glaucoma as a neuralgia limited to the first and second branches. The importance of these remarks is very obvious when we realize that, unless the true conditions are recognized, the patient will ultimately become stone blind. Whereas, should the condition be recognized a fair hope at least can be given the patient of retaining some vision. How much, however, that can be retained is even then under the most favorable circumstances problematical.

In the anemias, especially chlorosis, the ocular manifestations are too frequently neglected on the part of the practitioner. It is granted that with the cure of the chlorosis the annoying accommodative and convergence strain or the apparent muscular paresis will completely disappear. Yet it is incumbent upon us at all times to give symptomatic relief especially during the period of school life. Annoying headaches, mental lassitude, accommodative asthenopia associated with faulty extrinsic ocular muscular movements, exercise such a drain upon the already impoverished system of the chlorotic, that no matter what means for a cure we institute, the recovery is unduly prolonged and the patient unfit to carry on the school work. On this account, many children suffering from chlorosis do give up their school work. There is no real necessity, however, in many instances for them to stop school, if their eyes are put in such a condition so that no demand beyond the normal would be made upon them. There is no denying the fact that uncorrected ocular lesions in chlorosis seriously impede the *haemic restitutio ad integrum*.

It is not merely hypothetical to assert that certain eye defects play an important role in the proper functioning of the whole digestive tract. My colleague, Dr. Stevenson, and myself have often, by correcting the ocular defect, usually a refractive error, relieved the annoying vomiting in chlorotic school children and in some types of gastritis. With the cure of the chlorosis, these patients often are able to dispense with glasses prescribed for the refractive or muscular error, thus failing to prove a close association between this ocular condition of the patient and the existing chlorosis. In this connection let it be remarked that some obstinate cases of vomiting after meals, which, in general are ascribed to some gastric derangement, have for their etiologic factor some high astigmatic refractive error. The same holds true for *mal de mer* and railroad sickness.

Just as the Koplik spots along the gingival edge of the mucous membrane are diagnostic indications of measles, so are the corresponding conjunctival spots a very early manifestation of the skin eruption.

These spots, which have a yellowish color and appear along the marginal conjunctiva, particularly of the lower lid, are simple superficial ulcers with steep edges and a smooth base. They often precede the general manifestations of measles by several days, if not a week. In this regard then, if the child complains of an indisposition and these spots are present, it is reasonable to suspect an attack of measles, especially if the disease is prevalent. These spots are of such frequency as to permit them to be looked upon as premonitory diagnostic symptoms. They are often the forerunner of the conjunctival inflammation so very common in measles and serve as a means of differentiating the latter from scarlet fever.

In chorea, functional epilepsy, so-called choreic epilepsy and habit spasm, the eye is often supposed to play an important factor. Especially in the facial variety of chorea and petit or grand mal epilepsy are refractive errors frequently thought to serve as terminal irritation points for an explosion of the pent up and perverted nervous energy. It is rather far-fetched to believe that every case of chorea or epilepsy should present eye defects which in any way could be considered in a casual relationship. Yet, in a large proportion of cases there is some refractive error of some moment, particularly astigmatism. This refractive error, if corrected, is thought by some to add much to the comfort of the patient in that it has a tendency to decrease the number of attacks. The refractive errors and the exact dynamic power of the extrinsic ocular muscles are always to be accurately ascertained, not for the purpose of effecting a cure, but simply to relieve any reflex disturbance which may be due to the ocular error. Strange as it may seem, these ocular defects do not necessarily have any bearing in the matter of etiology. Often the correction of low errors of refraction or muscular insufficiencies in the aggravated types of chorea or epilepsy will apparently achieve wonders in allaying irritation. Still, no permanent or even temporary cure has been recorded. In this regard one should never neglect a strabismus or insufficiency no matter of what degree; since, causing diplopia, they may serve as an epileptic aura. Such enthusiasts as Ranney and Gould point to many a case of chorea and epilepsy which were markedly benefited by putting the eye in as normal a state as possible, whether with glasses or something else. In support of this, reference is made to the results achieved along this line at the Craig Colony, New York, by Drs. Gould and Bennet, and also to Ranney's work on eyestrain. The final report of the colony by Dr. Spratling shows, however, that no good was accomplished in the sixty-eight cases; the seeming improvement was only temporary. The writer from rather a large experience personally never saw any benefit accrue in such cases by correcting the error. Sachs, Dana, and Cutler with justice ridicule the idea of eyestrain as a causative factor. The Stevens' theory of tenotomy in these cases has long ago been exploded. The New York Neurological

Society's commission thoroughly reviewed the work some years ago, and their report was extremely unfavorable. Whenever any good results from the correction of the eye defect, it is not *per se*, but because it gives rest to an unstable nervous system. It is presuming altogether too much to say that the refractive or muscular error of the eye has any definite or even reflex causal effect in either chorea or epilepsy. It is not the error, but the nervous system back of this which is at fault. The only good achieved is in the so-called habit spasm cases.

In the confirmed neurasthenic, especially the one of the sedentary habits, careful inquiry into the refractive and muscular condition of the eyes should be made. Many of these patients present peculiar errors, which, if corrected, will materially mitigate the existing conditions. A cursory examination and a hit or miss prescription for the ocular error will not suffice. But a painstaking examination will frequently yield results which verily border on the marvelous. Their complaint of headache is more often real than simulated, though the latter seems to be the view often taken by the attending physician. Proper attention bestowed upon the eye in these neurasthenics, coupled with the appropriate systemic treatment, will accomplish more than either alone. It is seldom that an organic lesion of the eye is found to sustain any causal relation to neurasthenia, but a functional derangement of the eye due to the shattered nervous energy is frequent, and, therefore, demands correction.

In those who are afflicted with a disseminated arteriosclerosis not specific or nephritic, and with no other lesions directly dependent on this vascular condition, the minute subconjunctival hemorrhages that are prone to appear are very significant. These hemorrhages indicate a high vascular tension in the peripheral circulation and serve as a warning. In such cases, though the patient complains of practically nothing, yet measures ought to be instituted to control this cardio-vascular breakdown. Hemorrhages occurring elsewhere than in the conjunctiva are often fraught with grave results. Certainly, in such cases, prophylactic measures are clearly indicated. Furthermore, the extra-ocular vessels afford, in a measure, an excellent means of ascertaining the extent of the sclerosis in peripheral vessels.

Simple senile cataract and chronic glaucoma are more often confounded than there is any justification for. True, in both instances, the gradual oncoming of the so-called blindness, of which the practitioner speaks, is a diagnostic criterion if associated with the characteristic milky lens. This error is often committed in the patients fairly beyond middle life. You cannot place any reliance on the turbidity of the lens, seen by direct inspection, whether the case is one of simple cataract or not. For every lens in the aged shows a physiological haziness. No inflammatory reaction accompanies the formation of an uncomplicated senile cataract, while it frequently is a factor in glaucoma.

With advancing cataract, the pupil does not become dilated, as is always the case in beginning and advancing glaucoma. He who deigns to give advice to his patients in regard to these two entirely different eye diseases should at least thoroughly familiarize himself with their distinctive differential diagnostic symptoms.

The reflex neuroses due to eye strain *per se* are protean, Indeed, the term eyestrain is very elastic. Though the eye may not be perfect in a functional sense, still the nervous and muscular energy exerted will often completely correct the error and permit of no symptoms whatsoever. Just because we have a short bowel, a short leg and other like defects, we cannot justly speak of a bowel or leg strain, for they of themselves may cause no inconvenience or symptoms. Should, however, the mental effort at perception, or the muscular effort of accommodation and convergence, or the recipient function of the retina and the necessary muscular and nervous energy to maintain these, be disproportionate or fail to correct either one or the other, then, and then only, can we justly speak of eyestrain. This holds true for any part the eye may play in so-called functional derangements. Organic changes, such as diseases of the eye, in connection with general diseases, serve only as a single symptom—either diagnostic, prognostic or, perchance, prodromal.

Before closing, the writer wishes to call attention to two conditions, namely, trachoma, improperly called granulated lids, and follicular conjunctivitis. Many is the time patients come with this statement: "My doctor told me that I had granulated lids." Though the patient may have trachoma, yet more frequently is the condition a follicular conjunctivitis. Trachoma is a highly infectious and contagious disease, follicular conjunctivitis relatively little. Trachoma often causes blindness, follicular conjunctivitis never. Trachoma is a disease involving first the interstices of the conjunctiva and then the glands. In follicular conjunctivitis the reverse obtains. Trachoma is often painful, follicular conjunctivitis not; trachoma is exceedingly prone to chronicity, the other not. Trachoma frequently implicates the cornea, follicular conjunctivitis scarcely ever. Yet, a conjunctiva affected with either disease appears granular. Granular and granulated are merely descriptive terms of certain pathological lesions, and not the specific term for any disease. It is far better to say that a patient has a catarrhal condition of the conjunctiva than granulated lids, which term the laity invariably construes as trachoma and is so mortally afraid of. A trachomatous conjunctiva in the early period appears as if strewn with fine white sand, while in follicular conjunctivitis it appears red. It is better not to use the descriptive term granular or granulated when speaking to the laity.

There are many more interesting points to be mentioned in this train of argument. But the few comparisons will fully suffice to show that

frequently the eye will serve as a valuable means to an end not only in diagnostics, but in prognostics as well. It is deemed superfluous to cite illustrative cases, as they would, at least, be burdensome, and could not add any new data, but would be an infringement upon the time of the society.

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TYPHOID PERFORATION—A FAVORABLE CASE.*

BY FRANCIS REDER, M. D., St. Louis.

The surgeon, no matter how confident in his ability, will always feel a certain amount of reluctance when called upon to operate for a typhoid perforation. The reason for this is obvious; he has to deal with an organism that has been depleted of strength and resistance by a continued fever; an organism that has been weakened by the dietetic regime, so essential where the clinical importance of the intestinal lesion is the principal issue; again the correctness of the diagnosis will cause the conscientious surgeon no little concern.

With reference to the latter, much can be said. The clinical picture of a perforation will be always more or less clouded in the majority of cases. There is no positive sign by which a perforation can be interpreted as absolutely having taken place. From pain, cold extremities, rapid, feeble pulse, drawn, pinched features, profuse sweat, short sighing respirations, tympanic abdomen, the inference can be made that a perforation has taken place; such a picture, however, is more closely and more frequently allied to a late peritonitis without perforation

* Read before the St. Louis Surgical Club October 12, 1904.

The only assurance that a physician can obtain in feeling reasonably sure that a perforation has taken place, is when after a tranquil stage during favorable progress, the patient is suddenly seized with a sharp and excruciating pain in his abdomen, accompanied by symptoms of collapse. If, during this crucial period, which may last for several hours, before nature's forces have succeeded in overcoming the effects of shock, no diagnosis of perforation has been made, the probability of making one later will become more and more a matter of conjecture, because the classical picture of the lethal manifestations of peritonitis will efface the true character of the condition.

It is here where the greatest value of time will be lost. I am opposed to operating for a typhoid lesion when we are doing so only on suppositions, even if they are strong; but when an interruption of the nature above described has taken place, I should unhesitatingly open the abdomen, the same as I would in an attack of appendicitis, where the clinical picture would indicate a perforation. I can see much that these two conditions have in common, as far as the surgical feature is concerned. The technique of dealing with the involved part of the intestines will not disconcert the practical surgeon much. It will be his aim to place that part of the affected intestine in as safe a condition as can be done in the least possible time. If the perforation is a small one and the surrounding tissues are in a state to permit a suture to be placed, a Lembert suture, reinforced, is the method to be chosen. If, however, the perforation is of large size, such as we find when two or more small patches have coalesced, where the surrounding tissue is edematous, the intestine should be sutured to the parietal peritoneum, and free exit given to the intestinal contents. Such a fecal fistula, should the patient recover, may or may not close spontaneously. The tendency for such fistulæ is toward closing, without any secondary surgical intervention.

If the unfortunate condition should prevail, in connection with a perforation, that the end of the ileum be the seat of one large gangrenous patch as I have observed in post mortem, then I would treat the condition the same as I would a bowel that had become gangrenous by strangulation in which an endeavor was being made to revive it, *i. e.*, withdrawing the affected portion of the intestine from the abdominal cavity, and protecting it with hot saline compresses: or, if withdrawing the bowels from the cavity would be partly or wholly impossible, a thorough walling off of that portion of the intestine from the rest of the abdominal cavity would most likely prove the safest plan. If recovery ensues, the condition is corrected by a resection.

Resection, as a primary operation, entails additional dangers in typhoid cases, on account of the length of time such an operation must require, and the probable loss of blood that might ensue. It is only to be recommended in the most favorable cases; however, I do not think I

could convince myself of anything in an operation for a typhoid perforation that could be called favorable.

We must never lose sight of the fact that we are working upon an organism of very low resisting power, an organism that will continue to suffer from the deleterious effects of the disease for some weeks to come after our operative work has been completed, and that the least amount of meddling will be productive of the greatest amount of good for our patient.

Mr. G. R., age fifty-five, holding a very responsible position, was taken ill three days after an arduous task. I was asked to see him, and he informed me that he had a bilious attack, of which he would like to be relieved. The examination revealed temperature 102°, pulse 110. The man looked very tired. The tongue was angry red and dry, the patient constipated. The usual remedies were administered to relieve his bilious condition, with a good result. The fever, however, continued. On the third day diagnosis of typhoid fever was made. The clinical picture then had become so pronounced that it was an easy matter to make the diagnosis from the symptoms as they presented themselves without having recourse to tests. At the patient's request he was taken to Mullanphy hospital. The case ran a normal course. There was at no time an untoward symptom. The only unusual feature about the case was the irregularity of the temperature curve, although never exceeding 102° after he had been placed in the hospital. Yet such a temperature would show itself in the morning with a temperature of 99° in the evening, whereas frequently we would meet with a temperature of 99° in the morning and 102° in the evening. While at the house he made several attempts to get out of the room. No recurrence of that, however, took place while he was at the hospital. The medicinal treatment was practically eliminated. The diet consisted of the diet that a typhoid patient should have. A nurse was placed over him constantly. The patient had very little to say, never lost consciousness, never complained of pain. The bowels moved normally without assistance.

May 29th his temperature showed 103.8° in the morning. The following day his temperature showed 99.2° in the morning. From that day on progress continued most favorable until July 12th. I saw the patient at 7 o'clock in the morning on July 12th. He then had a temperature of 99.4°, pulse 92, was very comfortable. At 2:40 that day I was asked to come to the hospital immediately. I reached there in about twenty minutes. Found the patient in great distress, complaining of intense pain in the right iliac region. The pain radiated over the whole abdomen, the features were pinched and the whole body cold, every indication of a profound collapse. The abdomen was markedly tympanic; marked muscular resistance more pronounced on the right side, temperature 104°, pulse 132, respiration 26. It was not difficult to surmise the cause of this condition after the case had progressed so favorably. The

necessary remedies were applied to counteract shock. At the same time the tincture of opium was administered. At 6 P. M. the temperature was 105.5, the pulse 100 and respiration 22. The patient felt very comfortable, but was still cold. At 12 o'clock midnight the temperature was 100, pulse 90, respiration 20, the patient very comfortable, the body covered with perspiration and warm. A favorable period then set in, lasting some ten hours. Until that time the temperature ranged at 9:30 P. M. to 100, pulse 110. For the rest of the time the temperature was 99.4, with a variation to 99.7. The patient felt very comfortable, complained of no pain and said he thought he would get well. July 14th, at 7:30 A. M., unfavorable symptoms manifested themselves. Pain returned, tympanites became very pronounced and the picture of a general peritonitis began to develop. This condition lasted until 4:35 in the afternoon, when the pulse became so rapid that it was hardly to be counted, the temperature, however, remaining at 99.9. At 6:04 o'clock the patient expired, having retained consciousness up to the last.

During the week preceding the perforation the patient had a normal temperature for two days. He was permitted, at his request, to sit up for a half hour in the morning and a half hour in the afternoon during that week. This was done because the patient had expressed a desire to go home, that he was feeling very good and thought he could gain strength more rapidly in his own home. His diet, however, was never changed, not even to a semi-solid diet. The peculiarity of this case was that perforation took place at so late a date in a case that in every way presented itself as a mild form of typhoid fever. No autopsy was permitted.

THE BLOODLESS TREATMENT OF PHIMOSIS.

By E. C. GEHRUNG, M. D., of St. Louis.

The Bloodless Treatment of Phimosis.—GERSON (*Therapie der Gegenwart*, February, 1904).—The prepuce is pulled over the glans with left index finger and thumb, after which a dull pincette with closed branches is introduced into the sack. The pincette is permitted to spring open which dilates the prepuce. This process is continued for one-half to two minutes daily, and in several weeks a cure is produced. The mother is instructed to dilate the sack twice daily by pulling prepuce apart with index finger and thumb of each hand. This method is available only in infants and children.

Some time ago I happened to notice this little abstract in the *St. Louis Medical Fortnightly*, and having had forty years' experience with this new (?) method I may be excusable for offering this experience to the readers of this journal, especially as it is not a plea for priority. I thought the method so simple that it must have been practiced from time immemorial and therefore not worth publication, especially as the

trend of the times was then so strongly in favor of the bloody operation or circumcision.

Just forty years ago I met my first case of infantile phimosis in my private practice, and it happened that the parents absolutely refused to have the child circumcised though he suffered from difficulty in micturition accompanied with neuroses. It was then that I devised and practiced the below described bloodless treatment to extricate myself from the dilemma in which I found myself entangled.

The redundant tissue in front of the glans in phimosis is not a true prolongation of the skin and mucous membrane but of the skin alone; invaginated within itself it reaches back to the mucous membrane which surrounds the meatus. By drawing back the skin of the penis this portion reluctantly disappears, and thus discovers the true stricture of the prepuce around the meatus. By continuing this traction gently, while pressing the glans forward, the pseudo stricture may gradually give way and by degrees the glans will become exposed, when practically the whole operation is finished,

Infantile phimosis is not a true stricture, it depends on an arrest of development, the non-occurrence of the complete separation of the two apposed mucous surfaces—that of the glans and that of the prepuce, which show on forcible separation an interlacement of the opposite epithelia, which will pull asunder like the bristles of two brushes stuck together, usually without loss of blood. This epithelial connection is generally the cause of congenital phimosis and the consequent mechanical and neurotic complications by preventing the independent growth of the prepuce and the glans. Therefore, we find (1) strangulation of the glans and (2) retention of the smegma in the sulcus behind the corona glandis, which, as it increases in this inelastic sheath, begins to infringe on the lumen of the urethral space and thus causes the different urinary difficulties as well as the secondary neurosis.

The operation, as hinted above, appears very simple. It is by no means always so. The way I have performed it is: Retract the skin on the penis until the redundant part which is in front of the glans disappears and the meatus urethralis, and the meatus præputialis are exposed. Then insert a blunt and flat instrument like the eye part of a needle, probe between the foreskin and the glans down to the sulcus and sweep this around the glans from one side of the frenum to the other side of the same. The foreskin being thus released from these pseudo-adhesions, all that remains to do is to squeeze the glans out of the prepuce, a process somewhat similar to the squeezing a stone out of a cherry. The sulcus must be completely exposed and the smegma thoroughly removed; the entire exposed part well oiled and the foreskin returned to its former place. The retraction and oiling should, on account of the soreness of the parts, not be repeated before forty-eight hours.

The difficulty and pain usually occurring at the first micturition can be overcome by immersing the organ in warm water or by giving the child one or more grains of some one of the bromides immediately after the operation. Avoid exposure to cold, etc. The retraction must then be repeated; at first, every twenty-four to forty-eight hours, then gradually at longer intervals. Whether simply retraction or stretching by forceps, or any other means be practiced, the prepuce will contract again in a shorter or longer time if neglected, unless the prepuce be allowed to remain permanently retracted, which can be obtained by leaving the glans exposed for a gradually increasing time until it becomes tolerable of permanent retraction. Should the individual or his attendant neglect the retraction or the permanent exposure, the phimosis with all its consequences may return at any subsequent period of his life. This omission has driven many of my earlier cases in later life to submit to circumcision and others to suffer for the want of it, while those who have carefully attended to my injunctions have reaped as complete a benefit as if circumcision had been done.

This method is a good substitute for circumcision, provided the necessary after attention is given to it; on the other hand, circumcision will give a permanent result at one sweep, without possibility of a return of the trouble.

EDITORIAL COMMENT.

ECLAMPSIA.

In a recent number of the *Zentralblatt fuer Gynaekologie* (No. 37, 1904), Hitschmann of Schauta's clinic in Vienna, gives a short record of a case which, for some time to come, will always have to be considered in any discussion of the etiology of eclampsia. A patient, eighteen years old, developed eclampsia in the fifth month of her second pregnancy. On account of her very unfavorable general condition immediate emptying of the uterus was decided upon. The cervix was forcibly dilated by means of a colpeurynter and a hydatiform mole removed. The degeneration was a complete one, and not the slightest trace of a fetus could be detected.

A point of considerable interest in the history of this case is the fact that eclampsia in so early a stage of pregnancy is an extremely rare occurrence. Fehling, in his report on eclampsia before the German Gynecological Congress in Giessen in 1901, states that in 516 cases this complication of pregnancy developed but five times before the fifth month, and even these five cases are not fully authenticated.

But the chief importance of Hitschmann's case lies in its bearing upon the much debated question of the etiology of eclampsia. Almost all writers agree at present that the eclamptic convulsions are due to toxic substances circulating in the maternal blood. It is extremely probable that on account of an insufficient action of the kidneys and other eliminating organs, a pathologic amount of toxins is retained in the maternal organism. But these same writers disagree widely as to the source of this poisonous material. The more noteworthy of innumerable different theories which have been advanced may be grouped in two classes. The one would comprise the so-called fetal theories which, in a more or less different way, proclaim that the toxic substances are end-products of the fetal metabolism. In the other group we would include all those hypotheses that are based upon Veit's theory of the deportation of chorionic tissue into the maternal system during pregnancy. In his opinion, by the contact of this deported tissue with the maternal blood, certain lysins and toxins are formed, which, if not neutralized by an adequate amount of antitoxic bodies, lead to a pathological degree of toxemia with its sequelæ, *e. g.*, eclampsia. Veit's theory has been supported by many recent investigators, among whom we will only mention Weichhardt or Ascoli, and there seems to be little doubt that this theory is fast gaining ground over the older fetal theories.

The extreme importance of Hitschmann's case may readily be understood. In his case there was no fetus existing. This one observation positively sets aside the one very strong argument of the defenders of

the fetal theory that eclampsia never develops in the absence of a fetus. Hitschmann's case must be considered an ideal experiment upon the human being. It furnishes the one support needed by the theories, classed above in the second group. Eclampsia may develop in the absence of a fetal metabolism. For this case hardly any other explanation seems acceptable than that the source of the toxic substances must be found in the ovisac.

Hitschmann himself is rather cautious in his conclusions. He does not accept Veit's theory in its full scope, because, in his opinion, the formation of syncytiolysins could never be brought into harmony with the fact that autolysins do not develop under normal physiological condition. The writer admits, however, that his case invalidates Fehling's contention that the toxins of eclampsia always issue from the fetus, and that it brings additional proof to the theory, first advocated by Veit, that the ovisac may be a source of the toxic material, which is responsible for eclamptic seizures.

TYPHOID MORBIDITY AND TYPHOID STATISTICS.

In the hygienic and sanitary consideration of typhoid fever, a knowledge of the occurrence and condition of every single case is of prime importance. Public hygiene and sanitation have not to do with the treatment of the single patient but with the protection of the entire community. Such protection is impossible if the existence of typhoid is not at once brought to the notice of the proper authorities. Our theories concerning the spread of typhoid lately have radically changed. The belief that the disease is transmitted in most cases by water, milk or some common supply of the daily necessities has been abandoned, and in the typhoid of our cities we now begin to understand the effect of direct or indirect contact of the secretions of a typhoid patient with healthy people. An epidemic of typhoid due to the water supply has perhaps never existed in our city and typhoid has been absolutely of an endemic character. Such endemic typhoid cannot be stamped out alone by supplying pure water, milk, etc. These cases are not even eliminated by a perfect system of sewage disposal. But they can be eliminated by preventing typhoid bacilli to stray out of the body of the patient or convalescent, without being arrested and destroyed. Here alone lies the danger, and here, therefore, every attempt at exterminating the disease must begin. It is not difficult to control the infected person as long as he is sick, but very often carelessness and neglect are observed even here. The problem becomes, however, more complicated, since we know that the excretion of bacilli by feces, urine and even sputum, may continue for many months after the subsidence of the infection, and still more by the fact that even individuals in perfect health and with no previous history of an attack pointing to typhoid may carry pure cultures of typhoid bacilli

in their intestines and eliminate billions of the organisms every day for a long period. It will be a long time before such radical measures may be taken in our country as have been taken in certain parts of Germany; a long time before even the necessity and, at the same time, the feasibility of these measures will be recognized. But what could be done, and what ought to be done, is the close observation of typhoid patients and convalescents. The attention given to the simple measures, to comply with this observation, is almost *nil*, and we may say that practically every typhoid patient today is freely a source of infection during and long after his sickness. This is our typhoid, not typhoid from our so-called polluted water. Ample facilities ought to be furnished by the authorities to make such observations possible. The sanitary gain would largely outweigh the expense. But even for this we will have to wait a long time with our present method of conducting public affairs.

The only means by which at this time a certain degree of relief can be secured is in the hands of our profession. Every case, even the lightest and most atypical one, should be carefully investigated, and if found to be suspicious of typhoid infection, should be reported. As it is now, our typhoid statistics are absolutely futile, and it is entirely justifiable to assert that not more than one-third of the cases of typhoid occurring in a community come to the notice of the authorities as such. Typhoid very often offers immense difficulties to diagnosis—typhoid is only rarely the typhoid pictured in our text-books. The greatest and most accessible facilities ought to be, therefore, at hand to assist the practitioner in clearing the diagnosis, not so much for the interest of the single patient as for that of the people at large. Even such a highly overrated assistance as the so-called Widal reaction, as made in our public laboratories will be welcome in many cases. It is highly to be regretted that even this aid to diagnosis can be shut off for a period through political influence or mistaken financial considerations as has occurred lately in our city. Our profession can do a great deal to lower typhoid mortality by accepting the conviction that we must not think of the water, milk, etc., first, but always watch the secretions and excretions of our typhoid patients.

“THE AMERICAN JOURNAL OF UROLOGY.”

We welcome with much pleasure the first issue of “*The American Journal of Urology*.” Since *The Journal of Cutaneous and Genito-Urinary Diseases* discontinued the genito-urinary department, there has been an urgent need for a special journal upon urology. This hiatus in American medical journalism seems now supplied. Our best wishes for success!

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Sclerosis and Dilatation of the Coronary Arteries of the Right Heart Caused by Digitalis.—VON OPENCHOWSKI (*Berliner Klinische Wochenschrift*, No. 40, 1904) maintained formerly that digitalis augments or strengthens the action of the left heart only through dilating *ad maximum* the left coronary arteries and at the same time diminishes the action of the right ventricle through a contraction of the right coronary arteries. The author cites a case, however, in which the sphygmographic tracings demonstrate the difference in the strength of contraction of the two ventricles. The action of the right ventricle was strong and forcible while that of the left was very weak. This the author maintains could be due only to the difference in the blood supply to each through their coronary arteries.

The autopsy proved the diagnosis correct. The diameter of the right coronary artery was 14 mm., while that of the left was 8 mm. He believes that this could only have occurred through the strong influence of digitalis on the right heart.

A Contribution to Cytodiagnosis in Pleural Effusions with Especial Reference to the Tuberculous Form.—CARTER (*Medical News*, October 1, 1904) refers to the extreme importance of a positive and early diagnosis in suspected tuberculosis, and calls attention to the frequent opportunities offered for such by the examination of pleural effusions. He reports the results of his examinations in several series of cases, viz., those with pleuritic effusions of proven tuberculous origin, those with pleuritic effusions of probable tuberculous origin and those with serous pleuritic effusions following lobar pneumonia.

He finds that a true pleural effusion has a specific gravity over 1,010, with an average of about 1,018 and large per cent. of albumin; a pleural transudate has a low specific gravity with an average of about 1,008, with little fibrin and albumin.

A specific gravity of 1,012 to 1,024, a large amount of albumin and fibrin, with an accompanying lymphocytosis point to the diagnosis of tuberculous pleurisy. Frequent examinations may be necessary, for it is claimed by some authorities that a polymorphonuclear leucocytosis may be found before the third or fourth day of a tuberculous pleurisy. The temperature is usually 103° F. or over at the onset.

Postpneumonic serous effusions have a high specific gravity 1,016 or over, contain much albumin and fibrin, with a polymorphonuclear leucocytosis. The temperature is usually lower than in the tuberculous cases.

The differential diagnosis between a pleural transudate and a tuberculous pleurisy cannot rest alone on a differential cell count, as they

both show a lymphocytosis, but must rest on a more complete examination, including the specific gravity and the amount of fibrin and albumin.

Preliminary Report of Two Cases of Leukemia Treated with the Roentgen Rays.—FRIED (*Muenchener Medizinische Wochenschrift*, No. 40, 1904) recommends the application of the x-ray in the treatment of leukemia, and reports two cases in which his results seem to justify the treatment. In these cases the subjective symptoms were greatly improved; the number of leucocytes in the blood returned to the normal; the number of red blood corpuscles and the amount of hemoglobin were increased; in one case the spleen became decidedly smaller, in the other perceptibly so. The improvement was so prompt that there could be no doubt, in the absence of other treatment, that the x-rays brought about these results. The author is in doubt as to the permanency of the results, but recommends that the treatment should not be stopped too soon. It may be necessary to continue the applications of the rays even after all of the symptoms have practically subsided.

An Analysis of Forty-two Cases of Venous Thrombosis in the Course of Typhoid Fever.—THAYER (*Medical News*, Vol. 85, No. 14) has gathered a few statistics concerning venous thrombosis in typhoid fever. The material from which these statistics are made comprise about 1,463 cases of typhoid fever observed during the last fourteen years at the Johns Hopkins' Hospital. In this number there are recorded forty-two instances of venous thrombosis. He finds that the onset almost invariably occurs in the third week. There was a fatal result in 12.3 per cent. of the cases. The seat of the thrombosis was in the lower extremities in forty instances, on the left side of the body in twenty-six cases, on the right side in five and on both sides in nine. The time of onset of the symptoms was almost always in the third week or later.

Fever was present in thirty-six cases and chills in eleven cases. The first definite symptom in every instance was pain, though in several instances the chill preceded the appearance of localizing symptoms.

In all of the cases there was swelling of the affected parts; in most instances the temperature was raised, and in a number of cases there was redness of the affected vessels.

In twelve of the cases the leucocyte count was above 10,000, in fifteen cases over 9,000 and in three cases over 20,000. The degree of leucocytosis seems to depend upon the extent of the lesion. A sudden severe pain in the lower part of the abdomen during the latter part of the disease, associated with leucocytosis, should always point to the possibility of iliac thrombosis. The after effects of thrombosis of the lower extremities are often grave; the immediate danger, however, is not great. The extremity is often permanently enlarged and decidedly weak and presents varices which sometimes result in ulceration. The author calls attention to a characteristic triangular area of varicose veins on the abdomen observed in cases of thrombosis of the femoral vein. This is due to the fact that a part of the blood from the affected extremity is often carried up by the iliac vein of the opposite side, the current crossing the abdomen through anastomosis in the hypogastrium.

Two Cases of Echinococcus with Rare Localizations.—GRAY (*Wiener Klinische Wochenschrift*, No. 34).—The localization of the echinococcus cysts outside of the large body cavities, especially the abdominal, are comparatively rare. About 70 per cent. of all cases occur within the abdominal cavity and chiefly in the liver. In a careful review of the literature, unilocular echinococcus cysts have been reported elsewhere as follows: on the head, 9; on the neck, 26; on the hips and buttocks, 65; on the upper extremities, 25; on the lower, 75.

The two cases observed by the author were located on the thigh and neck respectively.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Ulcer of the Lesser Curvature, the Anterior and Posterior Walls of the Stomach.—RIEDEL (*Archiv fuer Klinischen Chirurgie*, Band lxxiv, Heft 3).—The rich experience, keen power of observation, as well as the dramatic style in which he always writes, makes an article from Riedel's pen a matter of interest at any time, no matter what the subject. As to the spontaneous healing of gastric ulcers, we are told by the pathologist that this is common, judging from the superficial scars which they frequently find in the mucous membrane of the stomach. But Riedel says these minor lesions are by no means the marks of disease which has caused serious stomach symptoms during life; they are seen rather as scars involving all the coats of the viscus and forming dense adhesions to surrounding structures. The truth of the matter is that very few die with spontaneously healed ulcers, since 25 per cent. to 30 per cent. of all those affected die unless operated upon. Just as in gall stone disease, it is not enough to make a diagnosis of the presence of the stones; their exact location must be foretold, if the surgical therapeutics are to be of avail. Riedel excises ulcers of the lesser curvature and then sutures the resulting defect, though, as he mentions, this may be of astonishing size, even though the ulcer was small. An interesting point in the diagnosis is that a tumor of the stomach is driven to the left of the vertebral column by the volume of the liver in the right hypochondrium, unless there be adhesions formed in the gall bladder region, when the mass is drawn over to the right. There is always pain, referable to the ulcer of the lesser curvature, which lies normally in the middle line; but if a tumor forms, this is, as explained, crowded to the left side, so it comes about that we feel the mass under the left ribs, or, if we do not succeed in feeling it, the patient complains of pain in that region. All the more common symptoms are mentioned, but the author places chief dependence upon severe and long-continued pain in the left hypochondrium. The fact has been frequently referred to by American writers that the technique in some of the German clinics is far behind that of our own hospitals, so one is hardly surprised in an article like this one to note that Prof. Riedel goes into the question of leaving a tampon

in clean abdominal wounds, when that matter was long ago settled in this country.

Another fact that cannot escape attention is that some of the partial gastric excisions reported lasted as long as three and one-quarter hours, and, what is more remarkable, some of the patients got well. Out of five gastro-enterostomies, three cases were lost. This may be partially explained by the fact that one such operation took two hours. In one case the abdominal sutures (material not mentioned) gave way before the wound had healed, and the patient died. In another case it is related that much intestinal contents was spilled into the peritoneal cavity, and so on are related a number of occurrences which would be unusual, to say the least, in a first-class American hospital today. However, Prof. Riedel's writing is always so frank and honest, to say nothing of being interesting and instructive, that the reader can always consider himself favored.

The Treatment of Recent Fractures by a Metal Clip.—DUJARIER (*Revue de Chirurgie*, No. 8, 1904).—The author has treated four cases in this manner, viz.: Two of the tibia, one of the femur and one of the radius. The clip resembles an old-fashioned double carpet tack somewhat, being "U" shaped and having the connecting limb longer than the two sharp-end ones, which are driven into the bone. After reduction of the fracture two holes are bored, and then the two points of the clip inserted, after which the whole is driven home with a hammer, not by blows in the middle, but by the intervention of a "set," consisting of a steel rod fashioned to fit the ends of the connecting limb. If blows are delivered upon the middle of the clip there is great likelihood that the two branches will separate, and thus the fragments of bone be carried out of a line. The diameter of the branches must not be too much out of proportion with the holes, or the blows of the hammer be too hard, else the bone can be split. It is usually not necessary to use more than one clip, though the author has made use of two on one occasion. As to his results, they have been functionally perfect, and no infections have been encountered. In trying to remove a clip, one month after its insertion, it was found to be perfectly solid, hence still performing its function. There is no reason for attempting to remove one of these things from a bone covered by plenty of soft material, though pain may be occasioned by the skin coming in close contact with it. There is no indication for the use of this contrivance if there be much fragmentation at the side of fracture.

Cancer of the Large Bowel.—C. H. MAYO (*The Medical Sentinel*, October, 1904).—It is interesting and of the greatest practical value to note that death from cancer of the bowel occurs in more than one-half of the cases before the regionary lymphatics have become involved—that is, at a time when there is still a prospect of lasting benefit from operation. The small bowel is much richer in resorbent lymphatic apparatus than is the colon, hence it is that secondary involvement is much earlier in malignant disease of the small than of the large bowel. So it is that cancer is more malignant in a young than in an old subject, for the reason that the lymphatic apparatus is less active in the latter. When the

colon is involved anywhere between the cæcum and the rectum, most cases will require an explorative operation before the nature, location and extent of the disease can be accurately told. The Mayos have a most ingenious way of treating the colon after resection. They suture the circumference, end to end, for two-thirds of the way around, and then leave the remaining opening as a fæcal fistula; the sides of the two limbs of gut are sewn together and later crushed through, then the fistula closed. When the ends of the bowel cannot be brought together, the lower end of the proximal gut is sewn to the skin and the distal end joined to this laterally.

For high rectal cases the operation is commenced in the abdomen, an artificial anus made through a McBurney incision, then the lower segment pushed down, the belly closed and the operation completed from below.

Gastro-enterostomy with the McGraw Elastic Ligature.—TIEFENTHAL (*Beiträge zur Allgemeinen Chirurgie*. Band, xliii, Heft 3).—This German assistant at Czerny's clinic is enthusiastic over his experimental success with the elastic ligature. It was at this same clinic more than anywhere else in Europe that the Murphy button received recognition a few years ago; a matter worthy of note when it is considered that many of the Germans refused to consider many surgical suggestions, for the simple reason that they are of American origin.

The author makes a new suggestion for the use of the ligature method in a special field, viz., the congenital pyloric narrowing of infants; his very good reasons for the proposition are that rapid operation is especially desirable here, and that the Murphy button is too heavy to be serviceable in these weak tissues. Nine experiments were done on dogs with a rubber cord of 0.3 Mm. thickness, and in one of these an attempt was made to cut out a quadrilateral opening after the manner of Maury, the McGraw technique being followed in all the others. The Maury technique is strongly condemned as being dangerous through the many needle holes as well as being time-consuming. A most ingenious addition to the usual technique enabled the operator to bring the rubber knot away from the needle hole and place it in the center of the new opening, thus avoiding a decubitus at a point near the Lembert suture. Especially is the ligature operation to be desired in the anterior operation, where on account of the recumbent position the button will often drop into the stomach; a good point it would seem. In one case the Lembert suture was placed too near the mesentery of the gut, with a result that intestinal vessels were unavoidably ligated and the gut became gangrenous at the edge of the operator's field, a peritonitis resulting. The ligature operation has been found by the author to be slower than the button, but faster than suture.

The Treatment of Certain Varieties of Carbuncle.—REBOUL (*Archives Provinciales de Chirurgie*. Tome xliii, No. 10).—Broca proposed the extirpation of a carbuncle in 1865, and recommended just the same procedure as would be used if a tumor were under treatment. By this treatment the operator surely arrests the progress of the infection, causes the pain to cease at once, and, in consequence of the extirpation,

repair is rapid and a slight as well as painless scar is secured. In fact it is possible in many instances to partially close the wound with sutures, and in certain location, as upon the lip for example, first intention has been secured. This procedure is warmly recommended in subjects who are not diabetic, albuminuric, cachectic or of advanced age.

The Treatment of Penetrating Wounds of the Heart.—GIBBON (*The American Journal of the Medical Sciences*, September, 1904).—There can be no doubt that the attitude of the older surgeons toward patients who had been so unfortunate as to sustain cardiac injuries was all wrong; at least this is what modern developments would tend to show. There have been many recent successes in penetrating wounds of the heart, where surgical treatment was promptly instituted, though it must be admitted that the prognosis in stab wounds is better than that in bullet wounds, in the light of what has been accomplished. The explanation of this fact may lie in the circumstance that the latter variety of injuries are frequently multiple. It is worthy of note that Nietert, of this city, while surgeon to the City Hospital, was able to report the second successful case of this kind in America. He was further able to demonstrate the hitherto unknown fact that manipulation of the heart is not at all painful. Still, a patient who is not anesthetized may struggle and loosen a clot that has formed, thus exposing his life to fresh danger. When the wound is found the finger should be thrust into it to close it, and then sutures of chrome-gut used; these may penetrate or not and be introduced either in systole or diastole. The necessity of draining pericardium or pleura will depend wholly upon the exigencies of the individual case. In general, the tendency should be as it is with reference to peritoneal wounds, as little draining as can be safely used.

Angiostripsy in Operative Surgery.—PERMAN (*Zentralblatt fuer Chirurgie*, No. 38, 1904).—This convenient method of checking hemorrhage has not not been as generally used in surgery as it deserves to be, because the instruments proposed have not been sufficiently simple, powerful, or durable. The two great benefits of the method are: the furtherance of asepsis and the saving of time in operating. Our author proposes an instrument, or rather a set of instruments, which are designed to fulfill all the requirements. He would use a specially constructed hæmostatic forceps, then after this has been applied, bring to bear upon the same a large and powerful pressure forceps, thus completely crushing all the tissue between the blades of the hæmostat.

He has used this method in many operations, viz., breast, goitre, hernia, etc., but does not advise its use in intra-abdominal operations, for the reason that a secondary hemorrhage is here to be feared.

The original illustrations should be seen that the instruments may be fully understood.

Apropos of Arterial Suture.—DJEMIL PACHA (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxx, No. 35).—The author has performed arterial suture with success three times; the first two of these operations, for longitudinal rupture of the axillary artery, having

already been reported. One of these first two cases was so satisfactory that the patient could be shown, nine years later, to have suffered no circulatory disturbance at that remote time. The third operation was undertaken to repair a two-centimeter tear of the external iliac; this was four years ago, still the functional result is perfect. The author is of the opinion that the method is entirely practicable for the treatment of all the large arteries if the tear does not exceed two centimeters in length. As to the technique, fine silk sutures are to be used, and it is practically impossible not to make many of them penetrate all the coats. The wound in the other tissues is to be tightly closed. If the work has been properly done, there need be no worry over thrombosis, aneurism or secondary hemorrhage.

Aseptic Surgical Technique.—OCHSNER (*Annals of Surgery*, October, 1904).—The principles subserved in this very practical and useful paper are pretty well embodied in the author's words: "Simplicity, uniformity, and reasonableness." The patients are prepared, as far as the skin is concerned, upon the day before the operation, to save the time which would otherwise be spent upon the operating table. As to the hands of the operating room personnell, the greatest stress is laid upon the fact that the hands are never to be soiled with pus; instruments and rubber gloves protecting the hands. (Gloves are worn by the operator only in the presence of pus, though all assistants wear them in every operation. It does not matter much what disinfectant is used on the hands, or whether any is used, so long as the skin is kept perfectly smooth and plenty of washing in running water with soap, brush and gauze is done. The sterilization of instruments, dressings, etc., is accomplished by heat in the usual manner; but it is worthy of note that Ochsner is one of those who still abides by the disinfection of catgut by chemical means. Many interesting points are elucidated relative to the matter of drainage. The author states that he practically never irrigates during an operation. Contact infection is the only form which is actually to be dreaded in surgery; hence it is to the avoidance of this form of danger that attention has been paid.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Treatment of Inebriety.—C. A. MCBRIDE; S. BLACKWELL FENN (*Brit. Med. J.*, April 30, 1904).—McBride vaunts atropine as a specific in the treatment of alcoholism. In an experience of over thirteen years he has rarely found it to fail. He gives the atropin sulphate hypodermically, beginning with gr. 1-300 three times daily, gradually increasing the dose to gr. 1-60. In addition he gives strychnine nitrate hypodermically, rising from 1-60 to 1-20 grain, and also some bitter tonic. Alcoholic beverages are by no means forbidden, but are allowed *ad lib*-

itum. After a few days an aversion to alcohol sets in and after several weeks the "cure" is completed. The aversion to alcohol lasts for years. He reports a number of very striking cases. Fenn also champions the value of atropin injections in these cases. He also combines strychnine injections, and in addition gives the double chloride of gold and sodium, gr. 1-20 every two hours. The patient is allowed all the alcohol he desires, and usually promptly acquires an aversion to the beverages. Sometimes, however, ipecac must be added to ensure this result. The treatment lasts at the most five weeks. About 60 per cent. of the cases result in permanent cures.

While these reports are of much interest, it still remains questionable how great a part suggestion plays in the successful results. At any rate a larger number of observers must have reported similar results before the specific action of atropine in combatting the craving for alcohol can be generally accepted. Moreover, the routine use of so powerful a drug as atropine, and one towards which so many people have an idiosyncrasy, is not free from danger and makes caution imperative.

Lactate of Eucain.—A. LANGGAARD; KATZ (*Therap. Monatshefte*, August, 1904).—While beta-eucaine has come into general use for purposes of regional and infiltration anesthesia, it has not been able to replace cocaine for anesthetizing mucous membranes, in spite of the fact that it is just in operations upon mucous membranes that we most often desire a substitute for cocaine. The ischemia and shrinkage produced by cocaine while often of value is, on the other hand, frequently a very undesirable complication, making operation more difficult and causing post-operative hemorrhage. Moreover, the large amount of cocaine that is often necessary to produce sufficient anesthesia for operative purposes, involves the danger of systemic poisoning. Beta eucain possesses none of these disadvantages; it produces no ischemia, does not shrink the tissues, and is only one-fourth as poisonous as cocaine. Its drawback, however, is its poor solubility, solutions of 3 1-2 to 4 per cent. being the strongest obtainable at room temperature. Accordingly, Professor Langgaard has produced a lactic acid salt of eucain, which has all the advantages of eucain, and is much more soluble, a 22 1-2 per cent. water solution, or a 13 per cent. alcoholic solution being easily obtainable. He suggests for use in ophthalmology 2 to 3 per cent. solutions; in dentistry, also 2 to 3 per cent.; for infiltration anesthesia, 1-8 per cent.; for regional anesthesia, 2 to 5 per cent., for nose, throat and ear work, 10 to 15 per cent.

Professor Katz has used eucain lactate in his great clinic with very satisfactory results. Where he desires an ischemia as well as an anesthesia he combines with the eucain lactate adrenalin and milk sugar.

Treatment of Measles by Means of Red Light.—(*Die Therap. der Gegend.*, September, 1904).—By analogy with the good effects produced in variola by means of the exclusion of all light except the red rays, attempts have been made to utilize the same principle in the treatment of the other acute exanthemata, such as erysipelas, measles and the like. At the meeting of the Madrid royal medico-chirurgical academy held on May 25, 1903, in the course of a discussion relative to the great epi-

demic of measles that raged in Madrid, a number of observers (Valley Aldabalde, Prada, Cerillo), reported their experiences with red light in this condition. They unite in pronouncing the procedure entirely without value. Moreover, the red light is very disagreeable to the patients and renders the observation of the eruption more difficult, so that further experiment in this direction does not seem advisable.

Acute Tetanus Cured by Intraneural Injections of Antitoxin.—W. S. SCHLEY (*Med. Record*, October 15, 1904).—Since, as is now well established, the toxin of tetanus reaches the central nervous system by entering the axis cylinders through the terminal muscle plates, thence ascending the nerve trunks to the cord and brain, and since the antitoxin follows the same route, it is clear that but little curative power can be expected from hypodermic injections of tetanus antitoxin. The value of prophylactic injections of tetanus antitoxin is undoubted, but when convulsions have once set in, hypodermic injections of antitoxin can no longer avail. The exposure, by operative procedure, on the other hand, of the nerves of the part affected and the injection of antitoxin into their trunks, allows not only a direct entrance for the antitoxin with consequent saving in time, but blocks the path for further toxin absorption by neutralizing that which is ascending. The nearear to the affected cells in the spinal cord the antitoxin serum can be placed the better. Lumbar puncture (or even a higher one) should be done, the nerves of the cauda equina should be scratched and antitoxin injected. Rogers, as well as Meyer and Ransom, have suggested the applicability of laminectomy to enable one safely and surely to scratch the cord and to inject antitoxin into it and have reported a number of cases successfully so treated. Schley reports an interesting case of acute tetanus successfully treated by means of the intraneural and intraspinal injections of tetanus antitoxin. The patient, a boy of five years, seven days before he was taken sick, had stuck a very small sliver of wood beneath the skin on the outer side of the right knee. On June 18th he complained of his jaws feeling stiff, and the next day the first marked spasm occurred. On June 20th moderate opisthotonos with slight fever, etc., set in. That night the operation was performed. The anterior crural and sciatic nerves were exposed for one and one-half inches and raised on a flat probe. Injections were made with a fine hypodermic needle and well up and down the nerve trunk, the needle being inserted several times in order slightly to wound the filaments, 3 c. c. antitoxin being injected into each trunk. A lumbar puncture made between the second and third lumbar vertebrae, and after allowing a small amount of fluid to escape, 3 c. c. antitoxin was injected. At the same time an attempt was made to scratch the nerves of the cauda equina. Ten c. c. of serum was then given subcutaneously. During the next six days the injections were repeated, the convulsions continuing with decreasing frequency and severity and the case finally resulting in complete recovery. The patient received nearly 180 c. c. antitoxin some of which, however, was lost in intraneural injection and in wound packing.

This is the fourth case of tetanus reported as so treated. Two of the four were cases of early development, and all of them might be called at least moderately severe. That all of them resulted in recovery marks

the intraneural and intraspinal injection of antitoxin as the most promising method of treating tetanus as yet advanced.

Medical Treatment of Deep-Seated Hemorrhage.—F. HARE (*The Lancet*, October 1, 1904).—The writer urges the use of amyl-nitrite in hemoptysis. In thirteen attacks of hemoptysis, twelve tuberculous and one cardiac, the bleeding ceased in all but one in three minutes. The writer thinks that the sudden fall of the blood pressure permits some coagulation and plugging of the leak, and that this is usually adequate to resist successfully the subsequent rise. The rationale of the treatment is evidently identical with that in which the administration of nitroglycerine is the central feature.

Treatment of Nephrolithiasis.—J. DECKER (*Muench. Med. Wochenschr.*, No. 39, 1904).—The crucial point in the treatment of cholelithiasis lies in the question whether it should be surgical or hygienic and medicinal. The radicals on the one side would have every gall-stone patient submit to an operation as soon as the diagnosis has been made; those on the other side are willing to consider an operation only as a final resort and thereby often reduce the chances of their patients when an operation has become unavoidable. The writer takes his stand between these two extremes. Operative interference is absolutely indicated:

1. In empyema of the gall-bladder.
2. In purulent cholangitis, especially when complicated with hepatic abscess.
3. In adhesions of the gall-bladder with neighboring organs.
4. In chronic obstruction of the common duct.
5. In the hepatic colic without the passage of stones, when the attacks come with increasing frequency and profoundly affect the general condition.

Operation is frequently, though not absolutely, indicated:

1. In perforation of the bile passages.
2. In hydrops of the gall-bladder.
3. In severe acute cholecystitis.

Internal treatment is demanded by:

1. Acute cholecystitis of mild degree.
2. The so-called "successful" attacks in which stones are passed with the stool.
3. Acute obstruction of the common duct.

Of course, no scheme like the above will apply to all cases; each case must be individualized. A wealthy patient, who can submit himself to a long-continued internal course of treatment, can afford to put off an operation longer than one who must be made able again to earn a living as soon as possible.

As regards the internal treatment, the writer discusses first the mechanical gymnastic procedures, then the dietetic regimen, and, finally, the medicinal treatment. Among the first may be mentioned:

1. Athletics, especially riding, rowing, swimming, skating, lawn-tennis and mountain climbing.
2. In-door gymnastics, especially such movements as strengthen the

abdominal muscles and intestinal peristalsis, massage of the abdomen and systematic respiratory exercises.

3. Proper clothing, avoidance of tight lacing.

The diet should be plentiful and varied, containing much proteid, as thereby the formation and circulation of bile is encouraged. To be avoided are highly spiced foods, rich and indigestible dishes, as well as large quantities of alcohol.

As regards the medicinal treatment, the writer confesses himself very skeptical. He has tried and found wanting nearly all the vaunted remedies. He makes an exception only in the case of Karlsbad salts, the effects of which in cholelithiasis he has found excellent, though he confesses himself at a loss to explain the *rationale* of their action. The proper execution of the treatment with Karlsbad salts, however, requires the careful oversight, both of the physician and of a nurse and can best be carried out in a hospital. It may be of interest briefly to summarize his procedure.

On arising the patient drinks slowly three glasses of hot Karlsbad water. Thereupon he does some in-door gymnastics, respiratory and abdominal, followed by a high, hot enema. After a light breakfast he returns to bed and has very hot applications made to the hepatic region for two or three hours. Then for an hour hot applications are made to the entire abdomen, followed by a warm bath, the temperature of which should be 34° R. ($= 109^{\circ}$ F.). Thereupon hot applications are again made to the hepatic region and the patient is given his luncheon preceded by one or two glasses of Karlsbad water. In the afternoon the hot applications to the entire abdomen and to the hepatic region are again made for an hour, each followed by another course of respiration exercises (thirty to fifty deep inspirations). The results of this regimen have been excellent. If after its close the patient has been free from colic for one-half to one year a second course, lasting three to four weeks, should be advised.

Besides the above, the article contains an excellent discussion of the diagnostic difficulties and methods in this disease and its perusal can be warmly recommended.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

About Paroxysmal Hemoglobinuria.—JULIUS DONATH and KARL LANDSTEINER (*Muench. Med. Woch.*, 1904, No. 36).—The theories advanced to explain the pathogenesis of paroxysmal hemoglobinuria, a disease in which, especially under the influence of cold, there occur attacks of hemoglobinuria, have all remained so far unsatisfactory. Donath and Landsteiner have studied, following the methods of Ehrlich, the blood and corpuscles of four cases, and have arrived at exceedingly interesting results. The conclusions from their studies are as follows:

In paroxysmal hemoglobinuria hemolysis is the result of the absorption of a toxic substance, present in the serum of the patient, which absorption only takes place under the influence of low temperatures. This substance is an amboceptor, the activation of which is brought about, at body temperature, by a complement that is present also in the normal serum.

Blood of hemoglobinurics cooled in a test tube shows typical hemolysis when brought to the body temperature, a reproduction of the process taking place within the organism.

The experiments again bring a proof of the activity of the complements in intact blood vessels and in uncoagulated blood.

By special investigations it was found that the temperature to which the blood must be cooled to allow of the absorption of the amboceptor need not be very low, 10 degrees C. in all cases being sufficient, and there is reason to believe that even higher temperature will bring about the phenomenon.

So far it has been impossible to demonstrate the origin of the toxic substance, which may be endogenous (tissues of the patient) or may perhaps be the consequence of a previous infection (syphilis?).

The Disappearance of Heterogeneous Immune Bodies from the Animal Organism.—A. SCHUETZE (Fest. Schr., zum 60. Geburtstag von Robert Koch, Jena, Fischer, 1904).—Schuetze's investigations tried to elucidate the following question: Are heterogeneous bactericidal substances in the same way eliminated earlier from the animal organism than the corresponding homologous substances, as has been shown to be the case with antitoxins? The experiments were made with homologous and heterologous cholera immune sera on guinea pigs, and it was found that homologous serum remains three to four times longer in the guinea pigs than heterologous sera (rabbit, goat). The latter are retained for about the same time. Nevertheless, the duration of the immunity after the administration of homologous serum was much shorter than when an active immunization had been practiced (in guinea pigs two to three months).

The Relation of the Nutrition of Infants to the Origin of Pulmonary Tuberculosis.—ALBRECHT SPECK (*Zeitschr. f. Hyg. u. Inf. Krankh.*, Vol. 48, heft 1).

Statistic and Ethnographic Contributions to the Question of the Relations Between the Nutrition of Infants and Pulmonary Tuberculosis.—HEYMAN (*Zeitschr. f. Hyg. u. Inf. Krankh.*, Vol. 48, heft 1).

These two papers are important as a contribution to the clearing of views now entertained in consequence of Behring's proclamation in wide circles. It is true that a great many of the conclusions drawn by the authors are based upon statistics, but it is fashionable nowadays to look upon such contributions with doubt and derision. The statistics here used, however, are essentially so free from the ordinary sources of error that their weight must be acknowledged even by the greatest skeptic. Speck has conceived the idea of making an extensive investigation into the way in which patients in sanatoria for tuberculosis and in hospitals were fed during their infancy, with especial reference to the

period covering the first three months. He succeeded in collecting 8010 cases, of which 5854 were breast fed and 2516 raised on cow's milk or other food. Reduced to percentages, there were among these cases 73 per cent. of breast fed and 27 per cent. of artificially fed patients. It is unlikely that the 27 per cent. should have acquired tuberculosis from the cow's milk fed to them in their infancy. It is, rather, apparent that for both of these classes conditions must have existed which, without any connection with their nutrition, brought about the infection. The conclusion is, therefore, again arrived at that cow's milk plays no part at all, or only a small part, in the origin of human tuberculosis.

In another direction Heyman attacks the same problem by a research on the conditions of tuberculosis in countries where no cattle are raised, and where cow's milk and beef are not used. The greatest interest in this direction pertains to Japan, and the author comes to the same conclusions as were arrived at by Kanda and Shiga, about which a short note was published in this section in a previous number of this journal. Up to twenty or thirty years ago Japan had no cattle to speak of; the use of milk and beef did not exist, for religious reasons. Only with the invasion of European civilization did cattle raising increase and the use of meat become more familiar to the public. Milk, even today, is limited to the better classes, and only exceptionally employed for the artificial feeding of infants. In spite of this fact, the tuberculosis statistics have remained about the same as they were before. A very interesting point is the fact that the tuberculosis mortality of young children in Japan has been all the time much higher than in any European country, an observation which in itself gives rise to much thought. More shortly the author considers the high tuberculosis rate in Turkey, and especially in Constantinople, where milk and butter are the privilege only of the well-to-do classes. For artificial feeding milk is used only exceptionally. In Greenland milk is excluded altogether, where, nevertheless, as is well known, the mortality from tuberculosis is appalling. In the conclusion of his paper the author discusses the results of the study of German census reports with reference to the tuberculosis mortality and the feeding of infants. As these statistics cover only a few years, their discussion may be omitted here. The proof of the falsity of Behring's opinion cannot be advanced in a more convincing way.

Contribution to the Origin of the Corpus Luteum of the Mammals.—J JANKOWSKI (*Archiv. f. Mikrosk. Anatomie.*, Vol. 64, heft 3).—In view of the lately promulgated theories on the function of the corpus luteum (Born, Fraenkel), assuming a glandular character for this formation, it is of interest to note that the old discussion about the origin of the corpus luteum has so far remained without a positive explanation. The older view of its mesodermic origin, which was entertained by v. Baer, has gradually been forced into the background by the epithelial theory, the main advocates of which were Sobotta and Cohn. The investigations of the latter appeared so conclusive that the glandular theories could be built upon them as a basis. It seems, however, that the older views will regain their reputation. Jankowski's careful work, carried on in Orth's laboratory, seems to show that the corpus luteum cells arise from the tissue of the theca interna, and that they grow into the follicle-

ular space after the follicular epithelium has desquamated and has been eliminated. His pictures are very convincing, and the more so from the fact that he started his investigations at the period when a follicle ruptures. His theory would fully account for the character of the so-called interstitial ovarian tissue, which plays such an important part in the ovaries of many mammals. This would do away with the contradiction which exists between the morphologic and chemical identity of both forms of cells and of their alleged heterogeneous origin. If Jankowski's assertions should prove correct, they would throw great obstacles in the way of a glandular activity. As yet we do not know that mesodermic elements ever perform secretory functions in the way of ductless glands. On the other hand, the resemblance of the corpus luteum cells to epithelia cannot be taken as evidence, as we see an analogous picture in the puerperal changes of the stroma cells of the uterine mucosa.

About the Mode of Infection in Tuberculosis.—O. LUBARSCH (*Fortschr. d. Medicin.*, 1904, No. 16, 17).—The reading of this very impartial and neutral paper is highly instructive, in view of the bitter fight waging just now on the question of the origin of tuberculosis. After considering all of the advanced explanations, Lubarsch draws the following conclusions, which we reproduce in abbreviated form: For all forms of tuberculosis the respiratory organs form the most frequent port of entrance. Progressive pulmonary tuberculosis can arise in the following ways: 1. The inhaled bacilli locate in an apical bronchus of the third to fourth order, causing a tuberculous process at that point, which, later, spreads to other portions of the lungs by way of the bronchi. 2. The bacilli, after passing the bronchi, reach the alveoli, multiply and produce a tuberculo-pneumonic inflammation. 3. They penetrate from the bronchioli to the peribronchial tissue, setting up a lymphangitis (peribronchitis tuberculosa). 4. They arrive, after passing the bronchi or alveoli, in the intrapulmonary part of the lymphatic tissue, and set up lesions here. 5. After passing the lung they are deposited in the bronchial glands, and, from this point, secondarily produce the infection of the lungs, either by way of the circulation or by direct invasion into a bronchus. 6. The rarest occurrence is the infection of the lung through the circulation from an old tuberculous focus.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Free Bodies in the Fallopian Tubes.—S. J. FEDOROW (*Annales de Gyn. et d'Obstet.*, September, 1904).—The author removed, in a diabetic lady fifty-four years of age, the uterus and appendages, by laparotomy, for cancer. The right tube was found dilated in its outer portion, the abdominal opening of the tube closed. The tubal wall was thickened, and on section a cavity of about walnut size was opened and found filled

with fourteen or fifteen small, round bodies. On microscopical examination these bodies were found to have an adenomatous structure, and in some places a ciliated cylindrical epithelium could be detected. In the author's opinion these free bodies in the tubes (which have been described by a few writers) are always papillomatous growths, which, for reasons not entirely known, have become detached.

Retroversion and Retroflexion of the Pregnant Uterus.—RUDOLPH CHROBAK (*Volkmann's Klin. Vorträge*, No. 377, 1904).—The author begins his interesting monograph with a short historical sketch. It seems that Kulmus, of Dantzig, about 1731, was the first to recognize a backward displacement of a pregnant uterus. As early as 1754 William Hunter described a case of this kind, and good illustrations of the case can be found in this author's famous atlas. (In the well-known picture of Hunter, painted by Sir Joshua Reynolds, this specimen is shown.) The nomenclature of this condition was in a state of considerable confusion until Duehrssen, of Berlin, a few years ago, in a very noteworthy monograph, proposed more exact names for the various degrees and the different forms of malposition of the pregnant uterus. In contradistinction to many modern writers, Chrobak recognizes but two degrees of backward displacement. In the first degree the fundus still remains above the level of the external os; in the second degree it sinks lower than the os. In retroversion the shape and axis of the uterus are either normal or somewhat stretched; in retroflexion, on the other hand, the shape of the uterus is distorted, the axis bent backward.

To Duehrssen is due the credit of having furnished exact descriptions of the various forms of pouching of the uterine walls. This author has established the following forms: (1) *Retroflexio uteri gravidi partialis vera*—pouching of the posterior wall of a retroflected pregnant uterus. (2) *Retroflexio uteri gravidi partialis spuria*—pouching of the posterior uterine wall in an antelected uterus. (3) Pouching of the anterior wall of a pregnant uterus in a small pelvis. (4) Pouching of the lateral wall of a gravid uterus. Chrobak, while accepting Duehrssen's classification, objects to the use of the word "retroflexion" in the second condition, which only resembles a retroflexion. He suggests this anomaly being called "Aussackung" (sacculation).

It is probable that the complication of pregnancy with retroversion is not very uncommon. It is not often seen by the obstetrician, due to the fact that in almost all cases the retroverted and often the retroflected uterus, in an early stage of pregnancy, spontaneously moves into a normal position. Whether in such cases a normally lying uterus, soon after impregnation, on account of its increase in size, fell into retroversion, or whether the uterus was lying in a backward position at the time when impregnation occurred, is a question still under discussion, recent writers leaning more toward the latter theory. A spontaneous correction of the malposition is prevented when the uterine axis has become longer than the true conjugate, if the uterus is fixed in its abnormal position by adhesions or the uterine fundus lies deeper than the cervix.

Next the writer takes up a very careful consideration of the various possible forms of sacculation of the uterine wall. Among the symp-

toms, those of the bladder are usually the first to appear. Patients often complain of a sudden inability to void urine, accompanied by a continuous dribbling from the overdistended bladder. Subsequent necrosis is one of the gravest complications. In a number of cases a compression of the ureters has been observed. Considerable space in this monograph is given to the question of diagnosis of retroflexion of the gravid uterus. The symptoms of the two degrees are arranged in the form of tables. In sacculation considerable difficulty may be experienced in the differential diagnosis between this condition and a pregnancy complicated by a tumor or a retro-uterine hematocele.

As soon as the diagnosis is established, an attempt must be made to replace the uterus. In earlier stages a recurrence of the dislocation is prevented by the insertion of a pessary. The writer mentions all the well-known procedures for the replacement of the uterus, and emphasizes the necessity of first carefully emptying the bladder. A hemorrhage from the bladder may follow catheterization, and the hemorrhage may become so severe that, after futile attempts with cold and hot irrigations, with astringent solutions and adrenalin, it may be necessary to lay the bladder open and pack it. If a catheter cannot be introduced, an incision into the bladder from the vagina is preferable to a suprapubic cystotomy. If all attempts to replace the uterus fail, abortion must be produced by inserting a bougie, or, if the cervix cannot be reached, by puncturing the uterus from the vagina with a trocar. Abdominal section should be reserved for cases complicated by a tumor; the operation is too dangerous, especially in the presence of a necrotic bladder. For extreme cases the opening of the uterus from the vagina, in order to remove the ovum, must be given preference.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Raw Milk in Infant Feeding.—HALIPRE (*Rev. Mens. des Mal. de l'Enf.*, September, 1904) says that milk, "a living liquid," is killed by pasteurization, and so, of course, by sterilization also. The advantage of sterilization is that the process kills the germs which cause diarrhea. The disadvantage of the process is that it kills the milk, thus rendering it indigestible. If raw milk is *pure*, there is no question of its superiority over pasteurized or sterilized milk. The milk must be obtained from tuberculin-tested herds, taken under strict aseptic precautions, transported rapidly at a constant low temperature. Such milk may be given without reserve to even very young children. If these conditions cannot be realized, it is necessary to continue to sterilize the milk, because it is better to give the child a comparatively germ-free milk, even though it be more indigestible than the raw product.

[Coming from a pediatricist of the French school, this view is of decided interest. In France sterilization of the milk is almost the rule,

and heretofore all the arguments that the American school has brought to bear in favor of raw milk have been coldly received in France. It will be noted that Halipre practically insists upon what we call "certified milk," and it may be added that he has noted the establishment of such a model dairy in Rouen.—ED.]

The Treatment of Tubercular Peritonitis in Children.—In an exhaustive study of the subject of tubercular peritonitis in children, GOEFFERT (*Arch. de Med. des Enf.*, August-September, 1904) summarizes his views as to treatment as follows:

In a child with generalized tuberculosis, acute or subacute, with secondary localized manifestations in the peritoneum, the treatment can only be that of tuberculosis in general.

A child with generalized tuberculosis, subacute or chronic, may show predominating symptoms on the part of the peritoneum; but the poor general condition and the evidences of rapid advance point to generalization of the process. In such cases treatment must, perforce, be symptomatic; ordinarily any treatment is useless.

Finally, tubercular peritonitis, as a localized lesion, is capable of spontaneous cure. It should, in the first instance, be treated medically.

In the ascitic form, laparotomy should not be resorted to at once. It appears, from experimental study, that the fluid itself exercises a bactericidal action, while the fibrin also plays a protective role. In the ascitic cases, therefore, medical treatment alone should be used faithfully for several months. If no improvement sets in, laparotomy or puncture, with washing of the cavity, may be resorted to later on.

In the fibro-caseous form, the author does not think that surgical intervention is of value. Here reliance must be placed solely on medical treatment. The only indication for laparotomy in this class of cases is to be found in the presence of one of two complications—encysted abscess or intestinal obstruction.

The essentials of medical treatment may be summed up as consisting in an abundance of fresh air, perfect rest, and a properly regulated, nourishing diet. With regard to medicinal treatment, the author has had excellent results from the hypodermic use of cacodylate of soda, in doses of one-sixth to one-third of a grain daily.

Acute Rheumatism in Children.—SHEFFIELD (*Post Graduate*, September, 1904) considers it surprising that the "infection theory" of rheumatism has not as yet received due recognition by the profession. He thinks that the lactic acid theory has been thoroughly eliminated, and believes that the discovery of the exact exciting cause will be an event of the near future.

It is probable that the port of entry for the virus is the tonsil or pharynx, as is evidenced by the sore throat which so often precedes the actual attack. The onset of rheumatism in children is usually slow and free from grave symptoms. Pronounced articular symptoms are only rarely met with in young children. Not infrequently the affection is limited to one joint, in which case it may be mistaken for other infectious fevers, particularly influenza, in which condition mono-arthritis is not of rare occurrence.

The articular involvement gives rise to symptoms identical with those seen in the adult, though they are ordinarily milder in degree and of shorter duration. Sometimes, however, the course is protracted and may lead to the suspicion of tubercular arthritis. There is at times thickening of the periosteum, so that incipient osteomyelitis may be suspected. The muscles may also be affected. The tendency to recurrence is as great as in adults. Recurrent attacks of chorea, and severe cardiac manifestations as the result of old valvular lesions, are frequently seen.

Endocarditis and pericarditis are particularly frequent complications of rheumatism in childhood. The endocarditis may precede the actual arthritic attack, or it may remain latent for a very long time, or it may run a very violent acute course.

Where pericarditis occurs, it usually sets in early. It is usually accompanied by effusion.

Abdominal pain is common, usually without involvement of the peritoneum, however.

As to treatment, rest in bed is most important, and should be enjoined throughout the course of the disease. During the height of the fever the diet should be the ordinary febrile diet, but in general the dieting of acute rheumatism is nothing but a myth, according to the author.

Medicinally the salicylates are of great value, and should be used throughout the disease. To avoid gastric distress, pepsin or ingluvin should be added. Aspirin is less apt to produce gastric distress.

Locally, wrapping of the joint with warm compresses, with sodium bicarbonate, are of value in the early stages; later on, gentle massage with ol. gaultheria and ichthyol are useful.

Complications are to be treated according to indications. The value of the iodides in protracted cases should not be lost sight of.

The Influence of Breast Feeding in the Infant's Development.—CHAPIN (*Arch. of Ped.*, August, 1904) says that it has been shown that the composition of milks of different species of animals is closely related to the rapidity with which the young grow; a milk high in proteid being intended for a quick-growing animal, as might be expected. And the milk of any species has uniform characteristics, and is kept by nature within certain narrow limits of variation. Competent dairy students have, therefore, come to the conclusion that it is impossible to alter the composition of cow's milk except by disturbing the cow's nervous equilibrium or digestion, or by underfeeding.

Similarly in the case of nursing mothers who are run down, whose milk is poor, not meeting the nutritive requirements of their children, we cannot alter the composition of the milk at will, as we sometimes think we do when we successfully treat a nursing mother. What we do is to bring about a normal condition of the body and nature does the rest, bringing about the secretion of milk that is normal to that mother.

In artificial feeding little difficulty is experienced on the part of the infant in digesting and assimilating as much fat and carbohydrates as are found in breast milk, but great disturbance is often the result when as much proteid as is found in mother's milk is given. The usual

method of overcoming this difficulty is to reduce the proteid in the food. When it is remembered, however, that the working parts of the body are built up from the proteid of the food, the tremendous advantage of the breast-fed over the bottle-fed baby is at once appreciated. The breast-fed infant is not as susceptible to disease as the bottle-fed baby, and, when attacked, recovers more promptly, as it has more vitality and reserve force. Too much attention has been paid in the past to mere gain in weight, and not enough to the character of the flesh.

Furthermore, the mother's milk is a food that adapts itself to the infant's developing digestive tract. So far as digestion is concerned, nature does not have the young follow the mother's milk, but has the milk ever ready to fit the developing digestive apparatus. Nature intends that the infant at weaning shall have a well-developed and vigorous digestive apparatus, and provides in the casein of milk a food substance that will insure this development. With the differences of the digestive apparatus in the different species of mammals, it is thus unreasonable to think that the milk of one species will adapt itself to the digestive tract of another.

The difficulties in artificial feeding of infants are not merely, as is so often supposed, chemical. They are largely due to physiological differences between human and cow's milk. These differences are more than quantitative ones and the supposed difference in reaction, and this fact has not been sufficiently appreciated. Mere dilution of cow's milk does not make it resemble human milk. In other words, the biologic aspect of infant feeding has not been given the importance that it deserves.

In conclusion the author emphasizes the fact that, as maternal feeding helps in the actual development of the digestive tract, our efforts in artificial feeding must tend in the same direction. A food that agrees is not necessarily the one for continued use, and in the art of feeding there are other factors to be considered besides mere gain in weight.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

The Lorenz Operation as Seen in the American Statistics.—FREDERICK MUELLER, M. D., Chicago (*Illinois Med. Journal*, October, 1904).—Dr. Mueller has the right to take up the fight on the Lorenz side, since he was assistant to Dr. Lorenz when that authority toured this country in 1902, there can be no doubt of the absolute worth of his statements on this much discussed question. His paper under the above title is instigated by the articles written by Dr. John Ridlon in the journal of the American Medical Association last April, in which he reported the "ultimate results" of bloodless hip operations—both his own cases and those done by Dr. Lorenz in Chicago—and incidentally gave the credit to Paci of Pisa of working out the essential points in the operation known as the Lorenz operation. The tone of these papers of Dr. Ridlon's

was one of skepticism and the statistics given did not place the results of the operations done by Dr. Lorenz in a very rosy light. Dr. Mueller says at the beginning of his paper "Dr. Ridlon's statements on the Lorenz method are in need of rectification; otherwise it would seem that we approve of his skepticism." Before he goes into the rectification of Dr. Ridlon's statements, Dr. Mueller takes up the Paci-Lorenz priority discussion and shows that the two methods are not the same, that the Paci movements are something similar to the old Bigelow, *i. e.*, that the reduction when it occurs is accomplished over the inferior rim of the acetabulum; whereas in the Lorenz method the reduction is accomplished over the posterior rim of the socket by the use of *ultraphysiological* abduction. To people who understand the two methods there is no confusion, as they are quite different both in the operation itself and in results. In rectifying Dr. Ridlon's statistics he takes up the statement regarding "anterior transpositions" and says that these cases may be changed into anatomical repositions if properly treated; to prove this he gives a skiagram of a case declared by Ridlon in his report as "anterior transposition" where he obtained an anatomical reposition.

Three cases which passed out of Dr. Ridlon's hands early in the after-treatment and were treated by Dr. Mueller are given, and the results claimed are not those given in Ridlon's statistics. Consequently the statistics are premature and not wholly reliable.

Experiences with Congenital Dislocation of the Hip.—HORVATH, Budapest (*Zeit. f. Orth. Chir.*, xii, 4).—A report of fifty-seven cases is given, of these thirty-four were single and twenty three double, making a total of eighty dislocated joints. Eleven of these went away during treatment, ten were not reducible and in nine there was relaxation and treatment was discontinued. Fourteen cases were reduced anatomically and resulted in cure. Twenty-one cases gave good functional results and fifteen are still under treatment. The author then gives a careful analysis of his cases and deduces the following conclusions: A shortening of 8 cm. means that the case is not reducible; where the shortening is 5.7 cm. the reposition requires great care, watching for paresis and circulatory change. The cases which are most favorable for bloodless reduction are those where the shortening is somewhere between 3 and 4½ cm.

Pes Planus.—HANS SPITZY, Graz. (*Zeit. f. Orth. Chir.*, xll, Heft 4).—The statement so often made that the new born foot is flat, a statement made by Lorenz and others, Dr. Spitzky disproves this by showing the changes in development in the foot from birth to puberty. He recognizes the former statement made and proved by Dane that the foot is so padded with a layer of fat that it has the appearance of being flat, but it is not really so. To further verify this the author took 100 impressions of infant feet and found that the tuberosity of the scaphoid never touched the underlying surface.

In 300 feet of sucklings the arch was obliterated by pressure and the tuberosity was always above the underlying surface, the average being 12.5 mm. Another demonstration showed that there is always a definite relation between the length of the foot and the height of the arch in the infant as well as in the adult.

The Treatment of Chronic Arthritis by Injection of Vaseline.—BUEDINGER (*Wein. Klin. Woch.*, No. 17; *Abst. Amer. Jour. Ortho. Surg.*).—Dr. Buedinger injects vaseline in chronic arthritis when of neither tuberculous nor gonorrheal type. He claims good results in the slight cases, some improvement in the severe forms and in the old forms a good supplement to the regular forms of therapy. His method of procedure is to heat sterile yellow vaseline and inject, with due precautions, into the joint cavity. The amounts used: 1 to 4 cm. into a knee, 3 cm. into a shoulder and into the smaller joints 1 to 2 cm. Pain arises in one-half to two hours after the injection and lasts two to six days, a sort of low grade synovitis occurring which is characterized by numbness and slight inflammatory swelling.

The Influence of the Adipose Tissue with Regard to the Pathology of the Knee Joint.—A. HOFFA, M. D., Berlin (*Jour. Am. Med. Assn.*, September 17, 1904).—Dr. Hoffa gives a description of the knee joint anatomically which shows that the fatty tumors found in that joint may arise from the fat which is normally in the joint, they do not have to arise from trauma which so injures the synovia that the parasynovial and retrosynovial adipose tissue may escape into the joint, as stated by König, Volkmann and others. The histological details of this condition he and his assistant, Dr. I. A. Becker, have thoroughly worked out and their conclusions are based on a series of twenty-one cases. The tumors are often the size of an egg and are composed of very solid adipose tissue and villi stained by former hemorrhages and containing blood clots of recent ones. Injury plays an important role in the causation of these tumors, and they are often seen in cachectic individuals. The symptoms are somewhat similar to those of floating bodies in the joint, that is, pain on the median side, locking, swelling of the joint on both sides of the patella, showing pseudo-fluctuation. To differentiate this condition from floating bodies the x-ray light is needed at times. In separation of the meniscus the pain is localized exactly within the joint cleft. Operation should not be resorted to until other means of treatment have failed, *i. e.*, massage, compression, etc. If done it should be done with the greatest care and is to be recommended.

The Value of Bier's "Congestive Method" in the Treatment of Joint Tuberculosis.—ALBERT H. FREIBERG, Cincinnati, Ohio (*Amer. Jour. Ortho. Surg.*, August, 1904).—A number of years ago Bier's first work attracted the author, but his interest was short lived, as many cases seemed to be made worse by the treatment, though the underlying principles seemed perfectly sound. The persistence of Bier, however, and the acknowledgment by him that many of his cases had not done well again aroused interest, especially as he stated that too intense application of the treatment was responsible for the baneful results. The author decided to try again using a cotton webbing elastic bandage and applying it only for an hour each day. Originally the compression was carried as far as possible, but now never beyond the "hot stage." Dr. Freiberg believes that it should be employed only as an adjuvant to immobilization and protection. Three cases are reported that certainly point

to beneficial results, one in particular, where amputation seemed to be the only thing that could be done, yielded readily and improved rapidly so that the wrist was saved. Dr. Freiberg thinks the method should be tried in a large number of cases and feels that it will prove to be of definite value.

Superiosteal Fractures of the Humerus in Children.—J. S. STONE, M. D., Boston (*Boston Medical and Surgical Journal*, August 11, 1904).—"When after a fall on the arm or shoulder children are unable to abduct the arm, but present none of the other signs of fracture or dislocation, and are able to move the arm in other directions, most careful examination should be made to determine localized tenderness anteriorly just below the head of the humerus, together with a slight irregularity in the contour of the bone at the same point. These signs are sufficient to establish the diagnosis of fracture of the surgical neck, and should deter one from further attempts by rough handling to secure crepitus or abnormal mobility." Five cases are given where the humerus was fractured. In the first two diagnosis was not made till the presence of callus gave the key to the condition, then x-ray pictures verified the conclusion that the humerus had been fractured. After this lesson cases were diagnosticated at the first examination and the proper treatment given. Good functional results in all.

These fractures are not of the greenstick variety, for they occur in older children, and the x-ray has shown them to be transverse. The impaction, if any, was slight in all cases, as witness the lack of deformity. The absence of the cardinal symptoms of fracture is due to the fact that the periosteum is tough and strong in the child.

The medico-legal importance of recognizing these cases is obvious.

Ankylosis Treated by Arthroplasty, Clinical and Experimental.—JOHN B. MURPHY, Chicago (Read before the American Surg. Assn., 25th Annual Meeting at St. Louis, June 14 to 17, 1904).—Dr. Murphy struck upon the idea of overcoming bony ankylosis by introducing an aponeurosis covered with fat, between the ends of the bones where ankylosis had existed. This he tried on the dog and found that he had produced a serous secreting surface resembling a typical synovial membrane in the sense of a hygroma. He then operated on a man who had right angle ankylosis of the hip, following a gunshot injury. The head of the femur was excised and the fascia lata with its fat and a few fibres of the gluteus muscle were turned into the acetabulum, and the joint sutured. The result of the operation was complete return of function. He mentioned several other cases where the results had been gratifying.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Some Cases of Family Disseminated Sclerosis.—REYNOLDS (Brain, Summer 1904).—This is an account of three children in the same family suffering from what the author takes to be disseminated sclerosis. Although they are what may be termed aberrant types, there is no question as to the correctness of the diagnosis. It is just this type of the disease in which we are in need of enlightenment, and the chief value of the paper lies in the insistence of the author on the necessity of recognizing this class of cases, which are so often called hysteria, and so treated until the incapacity of the patient is so great that hope of improvement must be given up. The points to be considered in cases of atypical multiple sclerosis are the following: Irregular subjective patches of numbness, often varying, disappearing and re-appearing, sudden falls from the giving way of a leg, slight paralysis of hands lasting for months or years, transitory paralysis of eye muscles, optic atrophy, subjective feelings of giddiness, alteration of handwriting, sudden dropping of articles held in the hand, ataxic movements of the hands and sometimes of the feet, spastic condition of the legs with true ankle clonus, Babinski's toe extension reflex, alteration of speech even very slight. The author calls attention to the fact that in many cases of multiple sclerosis there exists a well marked tendency to a nonprogression of the disease, and that even in well developed cases improvement frequently occurs. In the aberrant forms this tendency seems more pronounced than in the typical forms.

A Further Study on the Sensory Segmental Zone of the Umbilicus.—WEISENBURG (*Review of Neurology and Psychiatry*, October, 1904).—In a previous paper it was shown that the umbilicus lies between the ninth and the tenth thoracic sensory segments. An opportunity to confirm this observation was given by the case of a man who was struck in the back. There was complete paralysis of both lower limbs and loss of sensation below a line drawn around the abdomen about one inch below the umbilicus, resulting from fracture of the vertebræ. A post mortem examination showed that the cord as far as the upper part of the tenth thoracic segment was completely destroyed. This confirmed the findings in the previous paper referred to. The accurate determination of this localization in the cord is important in cases where surgical interference is necessary.

Fecal Vomiting and Reversed Peristalsis in Functional Nervous Disease—**A Summary of Cases and Conclusions.**—WEBER (Brain, Summer 1904).—This is a very timely article on a subject which has labored under such varied views that a correct understanding of its occurrence has been a matter of the greatest difficulty. The paper begins with a historical account of some of the earliest cases found in the literature. The

author's own case is related in great detail, and it forms, in a certain way, a model of cases of this character. The occurrence in this case of a marked degree of tympanites, together with obstinate constipation, and the other symptoms of acute intestinal obstruction caused at various times three laparotomies to be performed. In all of them nothing abnormal in the abdominal cavity was found. In this case there was undoubted fecal vomiting, as rectal enemata colored with methylene blue were ejected from the mouth a short time after they were introduced. A typical attack is thus described: The patient, generally a young woman, but sometimes a man or child, may seemingly be in the bloom of health before the attack. Some distressing mental emotion or other physical or psychical shock is followed by a period of great constipation, and this constipation is accompanied or followed by meteorism (hysterical tympanites) and abdominal pains. There may be severe attacks of vomiting and even some hematemesis. The constipation becomes absolute, and the other symptoms get worse, and finally the condition of hysterical ileus is reached. Then everything taken by the mouth is returned. The vomit becomes fecal in character, and even pieces of formed feces may be ejected by the mouth. Enemata and suppositories may likewise be vomited. Hysterical symptoms such as hemianesthesia and concentric contraction of the visual field are likely to be found if searched for. The main conclusions are as follows:

(1) Functional nervous vomiting, like the hemianesthesias, palsies and spasms of hysteria, must be regarded as due to an abnormal state of the cerebral cortex, and is just as much a symptom of functional brain disease as the vomiting in cases of cerebral tumor is of organic brain disease. (2) Fecal vomiting of functional nervous origin is merely a rare and extremely exaggerated form of ordinary hysterical vomiting. (3) The vomiting in functional brain diseases may be sometimes more violent and severe than it ever is in organic cerebral disease, since fecal vomiting is scarcely known to occur in cases of cerebral tumor. For the occurrence of fecal vomiting of functional nervous origin active antiperistalsis is absolutely necessary. But it is not certain that antiperistalsis necessarily plays a part in the fecal vomiting, known to surgeons as a symptom of organic intestinal obstruction (organic ileus). (5) The fecal vomit in organic obstruction of the bowel is seldom if ever more than feculent, that is to say, having the odor of feces without containing obvious visible fecal particles or masses. Vomiting of formed feces in the absence of malingering and gastrocolic fistula practically only occurs in functional nervous diseases. (6) Hysterical malingering is apt to develop in the same (hysterical) class of patients in whom fecal vomiting occurs, and the possibility of genuine fecal vomiting occurring side by side with simulation must be kept in mind.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Seminal Vesiculotomy—The Author's Operation.—FULLER (*The Post-Graduate*, October, 1904).—Cutting into and draining the seminal vesicles relieves the inflammatory condition by reason of the drainage, nor does it leave the sexual function crippled, but repairs it by restoring health to the vesicle. The author has operated thirty-three times without mortality. Tubercular cases should not be operated upon.

The Treatment of Catarrhal Pyelitis by Intra-pelvic Injections.—AYRES (*Amer. Jour. Urol.*, October, 1904).—The author claims that many cases of chronic discharges succeeding acute inflammations of the lower urinary passages are due to an unrecognized and untreated pyelitis. Out of fifty cases that had failed to yield to ordinary treatment for such conditions, forty-nine had catarrhal pyelitis. It is in the urine that the characteristic signs are revealed, and in typical cases a diagnosis may be made without recourse to a microscope. Stress is laid upon the appearance of the second urine. Although to the casual glance perfectly clear in cases of catarrhal pyelitis, if held to a strong light, minute particles may be seen floating in it. The particles are much smaller than what are known as prostatic points, and they do not sink to the bottom of the glass, but as the water cools there is found in the center of the glass a mucous cloud. The ureter catheter will demonstrate the presence of an increased number of pelvic cells. Besides the ordinary internal medication for their condition, pelvic lavage has been of immense service in the hands of the author, preferably with a weak solution of nitrate of silver. Thus, pyelitis is of more frequent occurrence than is generally supposed, and is often the cause of prolonged discharge. The local treatment of the pelvis of the kidney is a rational and quite feasible one for this disease, and even a beginning nephritis, when due to pyelitis, may be cured permanently by it. Parenchymatous nephritis treated by pelvic lavage has been wonderfully benefited.

Cancer of the Left Kidney.—CATHELIN (*Amer. Jour. Urol.*, October, 1904)—In this article the author describes and illustrates his segregator, and reports a case, in which, by means of his instrument, he demonstrated that the blood came from the left kidney. When operated upon, the kidney was found to be cancerous and was removed, the patient recovering, being in superb condition two months afterward.

My Experience with the Renal Catheter as a Means of Detecting Renal and Ureteral Calculi.—KELLY (*Amer. Jour. Urol.*, Oct., 1904).—In thirty cases the wax-tipped catheter was used as a means of diagnosis, and in twenty-four of these the wax was scratched, and the diagnosis of a renal or urethral calculus was confirmed by operation. The exact location of a stone in the urinary tract may be estimated by putting little beads of

wax at intervals on the catheter, or waxing the entire length of it. The wax-tipped catheter is made by melting a mixture of olive oil and dental wax (two parts wax to one of oil), dipping the end of the catheter into this and allowing it to harden in the air. The wax tip has never failed the author in urteral calculus, but in renal calculus, if the stone is lodged in dilated pouches, it may fail. The wax tip and the x-ray in diagnosing ureteral and renal calculi are compared, and in the author's hands both are open to some error, but both are of decided value and are confirmatory of each other. The x-ray is not always convenient, is expensive, requires skill, is liable to burn, often fails in very stout patients and uric acid calculi.

A Simple Method of Cystoscopy.—MILLET (*Jour. A. M. A.*, October 15, 1904).—Three years' use of an air cystoscope with water dilatation of the bladder justifies the author in recommending it as a safe, simple and practical method of cystoscopy. As air in the bladder is a foreign body and is more or less irritating, water dilatation of the bladder seems the rational method. With the air-dilating instruments, by reason of their construction, sterile saline solution can be readily used for inflating the bladder. By attaching a fountain syringe, filled with the solution to the instrument, the bladder can be readily inflated and the force of the stream increased or diminished according to the height of the syringe, so that the bladder can be repeatedly filled and emptied, and clots of blood washed away by directing the force of the stream in that direction. Practically, it means transforming an air-inflating cystoscope into an irrigating instrument; an instrument, too, which admits of rapid and thorough irrigation, permits the guiding of the inflowing stream where one wills, and is of greater efficiency than many which have been especially constructed for irrigation.

The Role of Abnormal Vessels in the Pathogenesis of Hydronephrosis.—LEGUEU (*Am. des Mal. des Org. Urin.*, September 15, 1904).—When, upon operating for intermittent hydronephrosis, we find the pelvis or ureter astride upon an artery or vein of the renal pedicle, we must not always conclude that the hydronephrosis is the cause of this condition. Indeed, it is sometimes caused by the hydronephrosis, and sometimes the hydronephrosis is caused by it. Three cases are reported in which an abnormal disposition of the blood vessels of the renal pedicle caused pressure upon, and obstruction to the ureter. The vessels elbowed across the ureter.

Pyelonephritis in Its Relation with Pregnancy.—LEGUEU (*Am. des Mal. des Org. Urin.*, October 1, 1904).—The influence of pregnancy upon a previously healthy kidney and an already existing pyelonephritis is considered in a thorough manner. Much attention is paid to ureteral compression and renal retention with infection. The evolution of pyelonephritis, with its influence upon the mother and child, and its treatment are spoken of here in detail. The author recommends premature induction of labor for those cases where the pyelonephritis is bilateral and the symptoms sufficiently intense to necessitate intervention. If the disease is unilateral, nephrostomy is justifiable in the first seven or eight months of pregnancy. Later, premature labor should be induced.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Benign Cystic Epithelioma and Its Relationship to So-Called Syringocystadenoma, Cystadenoma, Syringocystoma, and Haemangioendothelioma.—M. B. HARTZELL, M. D. (*British Journal of Dermatology*, October, 1904) believes, from the examination of sections, that this neoplasm springs from the hair follicles, and is in no way connected with the sweat glands or ducts, and that the little tumors described by various authors under the above names are histologically identical. He concludes that the following is inevitable: Either neoplasms, differing widely in origin and nature, may resemble one another so closely histologically as to be practically indistinguishable (which is unlikely), or those who believed they were able to trace the origin of these growths to the sweat-gland ducts, or the blood vessels, based their conclusions upon insufficient evidence. It is therefore altogether permissible, in the existing state of our knowledge of the subject, to regard all these cases which have been so lavishly named simply as varieties of one and the same affection, for which the name benign cystic epithelioma is entirely suitable.

Multiple Lupus Vulgaris; Its Relation to Measles.—H. G. ADAMSON, M. D., M. R. C. P. (*British Journal of Dermatology*, October, 1904).—Cases of lupus in which the lesions are multiple and scattered over different parts of the body have long been recognized, and it has been noticed that the lesions in these cases often appear suddenly and simultaneously. Du Castel was the first to observe the co-relation of measles and multiple lupus. On referring to the accounts of cases recorded since the report of Du Castel in 1898, the constancy with which an antecedent attack of measles is incidentally mentioned is very noticeable. In a typical case the patient, a child, showed patches of lupus vulgaris, varying in size from a split pea to larger patches, distributed over the face, trunk and limbs. Often the lesions showed the apple-jelly character. When they were small one might consist of a single nodule, while the larger patches would be made up of several nodules. Sometimes the lesions are scaly, and suggest, from their distribution and circumscribed character, patches of psoriasis. The patches may vary from half a dozen to fifty in number. The child is frequently in good health, and generally shows no other evidence of tuberculosis. On inquiry as to the origin of the eruption, it was found that at some previous period, it may be months or years, the child had an attack of measles, and that during or soon after the measles the existing lesions suddenly made their appearance, and that they had since remained unaltered, or slowly increased in size or number. The disease may disappear spontaneously without scarring. Tubercular lesions not of the lupus character may have a similar history.

The Relative Importance of Bacterial and Other Factors in the Cause of Skin Diseases.—ARTHUR WHITFIELD, M. D. (*British Journal of Dermatol-*

ogy, October, 1904).—This subject was presented for discussion at the seventy-second annual meeting of the British Medical Association, July 27, 1904. Dr. Whitfield divides parasitic diseases into four classes: (1) Diseases which were obviously contagious, and in which relationship could be traced between the parasite and its cutaneous reaction, *e. g.*, ringworm, favus. (2) Diseases which, while contagious, required a specific soil before the fungus could successfully grow in the skin, *e. g.*, pityriasis versicolor. (3) Diseases in which the parasite was obvious, such as animal parasitic diseases, scabies and pediculosis. (4) Diseases which, while associated with the presence of micro-organisms, were doubtfully contagious, *e. g.*, seborrhœa and acne. In these cases it was a matter of dispute whether the organism was a saprophyte or a parasite. Dr. Whitfield agreed with Sabouraud that the mere presence of micro-organisms in the skin was no proof that they were pathogenic. They must be in a condition of active growth before their toxins could be secreted. Three morphologically different organisms were commonly found in the human skin, the micro bacillus, the bottle bacillus and the gray coccus which did not liquify gelatine. In the second part of the paper, dealing with non-parasitic reactions, Dr. Whitfield expressed his belief that these reactions were the result of internal and external factors working together. He was of the opinion that toxic bodies from the alimentary canal played an important part in the genesis of skin diseases.

An Inquiry Into the Etiology and Nature of Toxic Erythemata.—J. F. SCHAMBERG, M. D. (*Journal of Cutaneous Diseases*, October, 1904).—The variety of causal agents that produce the different expressions of the erythema group are almost legion. The commonly attributable etiological factors may be briefly set forth as follows: Bites of insects and various other local traumatisms, various food stuffs and medicines taken into the alimentary canal, worms, intestinal catarrh, absorption of hydatid fluid, dyspepsia, gouty diathesis, functional and chronic disorders of the uterus, ovaries, etc., surgical operations, particularly upon the abdominal cavity, dentition and fevers. It would appear eminently desirable to classify the kinds of poison which give rise to this class of diseases into the following tentative groups: (1) Bacterial and protozoal toxins, (2) ptomaines, (3) leucomaines and other metabolic poisons (4) drugs.

John of Gaddesden, Variola and the Finsen Light Cure.—H. E. HENDERSON, M. D. (*Cleveland Medical Journal*, October, 1904).—Quite recently the name of John of Gaddesden has become familiar in connection with the Finsen light cure, especially as applied to the treatment of smallpox. Dr. Henderson, in his search of the literature upon that subject, finds that the red wrappings in the treatment of smallpox, which was accredited to John of Gaddesden, was neither original with him, nor had his method anything to do with the chemical effect of the red rays of light as has been stated in various articles. John of Gaddesden's discussion of variola and its treatment he found systematic and as complete as that in modern textbooks. The passage to which special attention has been recently directed is couched in the following words:

"Then take a cloth of scarlet or some other red color and wrap up the patient completely, as I did in the case of the son of his majesty the king of England when he was suffering from this disease (smallpox). In this case I also had all the hangings of the couch made of red material. The case has turned out very satisfactorily, and the patient recovered without a mark of smallpox." The author claims no originality for this method of treatment. As a matter of fact, the treatment of smallpox by scarlet or red hangings was previously mentioned by at least two physicians. One of these earlier writers says: "Then wrap the patient in a woolen cloth of purple or at least of a red color, so that the sight of the red cloth may move the blood to the exterior and may hold it there in a moderate heat, according to the tenor of the sixth canon of Avicenna." Dr. Henderson infers the association of ideas in this treatment to have been somewhat as follows: Scarlet and red have been, from time immemorial, associated with the idea of fire and heat. A scarlet cloth is therefore warmer than a similar cloth of a different color. Warmth applied to the surface of the body encourages the development of eruptive diseases such as smallpox, hence wrapping the patient in a scarlet cloth would especially further the development of the eruption in this disease. It will be seen, accordingly, that the treatment by red wrappings had nothing whatever to do with the modern light cure as developed by Finsen.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Non-Operative Treatment of Trachoma.—F. J. PARKER (*Med. Record*, September 17, 1904).—Parker affirms that operation should not be regarded as a complete cure, but rather as a means of shortening the time of treatment. Without efficient and prolonged after-treatment, operated cases suffer severe relapses. The presence of small hard follicles, either alone or accompanied by the soft variety, contraindicates operation. In these cases so much force is required to express the follicles that much conjunctiva will be destroyed and subsequent cicatricial changes will take place in the lids. Occasionally severe pannus follows operation.

In follicular trachoma of the soft variety where operation is positively indicated, only about one in six patients will consent. The other five will have to be subjected to non-operative methods. The following slip, which is given to all clinic cases, has been found of great service:

"Instructions to Those Having Trachoma—Trachoma is a contagious disease of the eyelids, which if neglected will cause suffering and injury to the sight.

To avoid infecting others, those having the disease should observe carefully the following instructions:

1. They should have their own towels, handkerchiefs, wash cloths

and toilet articles, and under no circumstances should they be used by others.

2. They should sleep alone.

3. Avoid rubbing or touching the eyes, as the contagion may be carried on the fingers and infect others through articles handled.

4. The hands should be cleaned often with soap and water.

5. Treatment should be attended to regularly and continued until pronounced cured by the physician."

The non-operative treatment advocated by Parker is as follows: After thorough cocainization the everted lids are rubbed three times a week with a hard cotton applicator dipped in bichloride 1-500. At home iced cloths and drops of an organic silver compound morning and night. After the conjunctiva has become smooth the treatment is continued by the application of a solution of tannic acid in glycerin forty grains to the ounce. In the variety with hard follicles the copper sulphate crayon is applied to the conjunctiva, the excess being washed away with boric acid. In the third stage with cicatricial contraction of the lids and pannus, the writer recommends rubbing the conjunctival surface with castor oil and making superficial linear scarifications with the knife. Copper crayon is also useful. Pannus should be treated by hot applications and atropin. Larger vessels may be divided at the corneal margin by the actual cautery.

The Treatment of Pulsating Exophthalmus.—F. W. MURRAY (*Annals of Surg.*, March, 1904).—Pulsating exophthalmus is caused by an arterio-venous aneurism of the internal carotid and the cavernous sinus. Treatment should have for its aim the reduction of pressure in the sinus, thus relieving the congestion in the superior ophthalmic vein. Ligation of the common carotid is apt to be followed by the rapid re-establishment of the collateral circulation (principally through the superior thyroid artery) and consequently the return of the bruit. The known possibility of spontaneous cure has led in some instances to the adoption of palliative medical measures. The chances for improvement by medical treatment are, however, remote and vision may thereby be imperiled. The surgical possibilities are (1) prolonged compression and (2) ligation. The latter has a mortality of only 10 per cent. and is followed by cure in about 80 per cent. In Murray's opinion the aim should be to delay the establishment of the collateral circulation, thereby gaining time for the organization of clots deposited upon the edges of the rupture. The operation of choice should therefore be ligation of the internal carotid.

Ligation of both common carotids has been performed in six cases with no mortality. In two cases a cure was finally effected by tying off the enlarged and pulsating veins at the inner angle of the orbit.

A Case of Congenital Word Blindness.—J. HINSELWOOD (*Ophthalmoscope*, October, 1904).—In the writer's experience, cases of congenital word blindness are usually seen first by the ophthalmic surgeon who should, therefore, be thoroughly familiar with all the varieties of cerebral defects of vision.

The present case was a boy who experienced the greatest difficulty in

learning to read. In his other studies he was well up with boys of his age. Refraction, visual acuity and fundus were normal. After reading two or three consecutive words, he would come to a stop and could only proceed if allowed to spell the word aloud or spell it silently with his lips. He could take down words from dictation readily and correctly.

Such cases are not very rare, but are, for the most part, unrecognized. The angular gyrus on the left side of the brain is presumably the area where are stored the visual memories of words and letters. Any diminution in the number of cortical cells, possibly also a diminished blood supply would decrease the power of retention of the visual images of words and letters.

In the presence of any decided visual defect the diagnosis would be rather difficult. A double defect for letters and figures is present in some cases. This is explained by the fact that the cerebral areas for the two sets of images are probably contiguous.

In examining the patient, he must not be allowed to spell the word letter by letter, to move the lips silently or to trace the form of the letters with the hand, as these methods appeal to other forms of memory which may be normal.

As a rule the difficulty may be largely overcome. Early recognition is important. The child should be given a number of short reading lessons daily, care being taken to avoid fatigue. In order to deepen the visual impressions by tactile ones the use of block letters is recommended.

Bilateral Amaurosis Following Severe Hemorrhage After Extraction of a Tooth—Partial Recovery.—J. W. STIRLING (*Ophthalm. Rev.*, August, 1904).—The hemorrhage lasted between three and four days, the patient, a boy of four, becoming pulseless and unconscious. On recovering consciousness vision was found to be lost.

Examination two years later showed vision reduced to fingers at six inches, fields concentrically contracted, pupils large and immobile. Ophthalmoscopically, the appearances of partial optic atrophy secondary to optic neuritis. The edges of the disk were lacking in sharpness.

In reported cases the following are the sources of hemorrhage in order of frequency: Intestine, uterus, from leeching, nose, lung and urethra. The blindness is usually bilateral.

Holden's hypothesis—edema and degeneration of the ganglion cells of the retina followed by a similar process in the nerve fibres—is accepted as the most simple explanation of the pathological changes. At the same time it tallies best with the slight swelling and later indistinctness of the nerve head.

SOCIETY PROCEEDINGS.

ST. LOUIS SURGICAL CLUB.

Meeting of October 12, 1904.

The meeting was called to order at 8:55 P. M., Dr. William S. Deutsch in the chair.

TYPHOID PERFORATION—A FAVORABLE CASE.

Dr. Francis Reder read a paper with the above title, for which see page 667.

DISCUSSION.

Dr. Charles Dixon thought the history in the second case pointed to appendicitis rather than typhoid fever, there having been an inflammation at the base of the appendix, followed by sloughing and perforation.

Dr. M. B. Clopton thought Dr. Keen was responsible for the impression that it is not wise to operate during shock. When the operation for perforation was a new one he had seen quite a number of cases operated upon during the first shock, and he thought it most fortunate, as most of those cases operated upon while the shock was on recovered from the operation the best. The matter of greatest importance was the condition of the disease at the time of operation. In the past two or three years he had seen three cases of typhoid perforation that were very instructive. In one case operated upon by Dr. Mudd the perforation occurred in the third week of the disease. The pain was so definite at 5 A. M. that the nurse telephoned the physician in charge, and the patient was seen immediately. Dr. Mudd was called, and saw him at 7:30 or 8 o'clock. Examination of the abdomen was not very satisfactory on account of the great amount of adipose tissue; intoxication following the perforation and the shock were so intense that the patient was more or less obtuse to the pain. The operation was performed at 9 o'clock. During that hour and a half an opportunity was given for observing the effects of the perforation. The speaker had never seen an abdomen fill up faster than that one did. On opening the abdomen it was found filled with a thin cloudy fluid. There was no fibrin. The perforation was about the size of a pin point. Streptococci were found in the fluid. Dr. Clopton had never seen a case of streptococcus peritonitis get well.

The second case was a boy where parents refused operation. The patient died. The last case was of peculiar interest aside from the unusual perforation. The woman was in the second or third week of typhoid of a mild type. Great pain came on rather suddenly, but there were no very severe symptoms. Consultation was held six or eight hours after the attack of pain, but the symptoms were not of sufficient gravity to make her consider an exploration advisable, and she refused to be operated upon. For a week or more no aggravation of the symptoms arose, and the typhoid subsided. About four days afterward the distention of the abdomen became marked, and there was more or less tympanites. Two or three days later she was seen again in consultation, but operation was not advised, because it looked more like a simple paralysis of the gut than anything else. She grew worse, and eight or ten days after the onset of the pain the distension was greater than in any case the speaker had ever seen. Dyspnea was marked, and she was very weak. The pulse was rapid, and the weakness seemed due to the great distension of the abdomen. She was unable to sleep, although her fever was not high. At the autopsy gas gushed forth, and the abdomen was nothing but one big gas sack. The intestines were lying in the back, but not distended. There was no redness of the peritoneum except in the pelvis, and very little there. However, in the omentum and transverse colon there were a great number of blebs or cysts, some as large as an orange and ranging in size to that of a pea, and every little fat globule was distended. There was no fluid save a dram or two in the pelvis. It looked like a gas bacillus, and the smears made at the time showed many of the bacilli. The perforation was found on the ascending colon, half way up, retro-peritoneal, about one-eighth of inch in diameter. This had probably occurred at the time of the onset of the pain. There was an abscess about one cm. in diameter that contained pus. There was also a small abscess in the transverse colon, or, rather, in front of the transverse colon, and the gas bacillus had gained entrance here. The woman had evidently died from the gas bacillus, for the typhoid ulcers had practically healed.

The President was much interested in Dr. Reder's paper, and was also glad to see that it brought out such a thorough discussion. In connection with the one case spoken of, a very peculiar case, upon which the speaker recently operated, was called to mind. A patient at the Jewish hospital had been ill there for some time, running a temperature. The medical man in charge diagnosed typhoid, which was verified by a positive Widal. Gradually a swelling developed of a fluctuating character in the right iliac region. The question of some ovarian disease was suggested, but the speaker decided that the swelling was in all likelihood of appendiceal origin, and operated accordingly. In cutting down on the mass the intestine was found agglutinated to the peritoneum and the appendix obliterated. A large quantity of thick pus was evacuated from behind the cecum. After washing and draining with gauze for a few days the patient's temperature dropped to normal, and healing followed without a fecal fistula. At the end of the third week following the operation a slight rise in temperature was noticed, with no other symptoms present, bowels moving regularly, and it is a question whether there was really a double infection of typhoid and appendicitis in this patient originally, which now, since the more acute trouble around the cecum and appendix had been relieved, allowed the typhoid infection to again assert itself.

Dr. Nathaniel Allison said that in his experience typhoid perforation in children was a particularly serious thing. The time lost in waiting for shock to subside was more dangerous than in adults. The one case which he saw that had recovered, operation was done almost immediately, while others, who were stimulated, etc., died. It is a much more rare complication in children than in adults, but when it does occur it is more severe in the former than in the latter.

Dr. John C. Morfit believed this was an ideal case for operative interference, if that very serious complication in a very serious disease could ever be considered favorable for operation. He did not believe, however, that the surgeon was ever justified in urging operation. Intelligent people, able to think for themselves, or having relatives capable of thinking for them, when the conditions were made clear, should be required to decide, and if they decided adversely the surgeon need not reproach himself for not having urged operation. He should always be prepared to operate in these cases, and after the diagnosis had been made the operation could not be done too soon, but there arose the old point that some cases, quite as typical as the one Dr. Reder described, had recovered. It should be remembered that symptoms of perforation occur when no perforation is demonstrated, so that in operating on such cases the patients are subjected to a certain danger.

Referring to the case of gangrenous peritonitis and to Dr. Deutsch's case, he thought it very probable that the latter was one of perforative appendicitis.

Dr. Reder, in closing, said that, as to the calomel, the last dose of one-fourth of a grain was given two weeks prior to the time that the patient died. It was given because the patient complained that he had a very bad taste in his mouth. His condition was such that absolutely nothing was being done except to keep him on a careful diet. Dr. Jonas was correct as to the diagnosis in the second case. The Widal reaction and other tests proved the case to be beyond question one of typhoid. The patient evidently had the ambulatory type. At one time he got out of bed and went out into the hall. The peculiarity about the other case was that perforation took place so late. Perforation is looked for earlier, although Holmes cited a case in which perforation took place after four months. Regarding Dr. Allison's statement as to the rarity of perforation in children, the speaker said that hemorrhages were also very rare. He had never seen that complication in a child. Hemorrhage was also rare in women. Referring to Dr. Dixon's opinion, he was rather inclined to agree with Dr. Dixon, that that was a case of appendicitis. The man lingered along for six weeks, which the speaker had thought was due to an infection caused by the perforation, but the patient certainly had a typhoid look. Replying to a question by Dr. Dixon as to what was meant by "a typhoid look," he said that it was a difficult question to answer, but that when going through a hospital ward an experienced physician could almost invariably point out the patients suffering from typhoid. As to Dr. Deutsch's case, he was inclined to think that Dr. Deutsch was going to have a second abscess formation.

MIXED LARGE AND SMALL ROUND CELL SARCOMA.

Dr. John C. Morfit presented a specimen of mixed large and small round cell sarcoma of the thoracic wall.

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ORIGINAL ARTICLES.

GERMAN MEDICAL EXHIBIT.

BACTERIOLOGY AND EXPERIMENTAL THERAPEUTICS.

BY PROFESSOR DR. A. WASSERMANN, University of Berlin.

In accordance with the general plan of the German medical educational exhibit, the bacteriology department is intended to give an idea of the methods of instruction in this special branch. Especially in bacteriology, however, do research and instruction proceed hand in hand. The same apparatus and methods are employed both in research and instruction. Therefore, an exhibit which shows the methods of bacteriological instruction, will represent at the same time the course and the results of research. Considering the extent of the science which deals with the germs of infectious diseases, it was impossible, within the limits of this exhibit, to present a complete and comprehensive view of this branch of scientific study. The chief aim and object in bringing together this bacteriological exhibit was to show the progress made in this science during the last decade, *i. e.*, since the Chicago Exposition. But this progress has been so manifold in its nature that only a general idea of it could be given owing to the limited space at our disposal.

Whilst bacteriology down to the beginning of the nineties of the nineteenth century was a science which concerned itself principally with the origin and mode of propagation of infectious diseases, it turned, from that time on, to the investigation of such important questions as how to protect individuals; in short, it aimed at preventing these diseases. The years just after 1893 mark this important turning point in the development of bacteriology. For it was about this time that serum therapy, founded by Behring, was introduced into medical practice; from this time, too, date the principal works which aimed at attaining actual immunity of men and animals against infectious diseases; and, finally, it was about this time that the doctrines and observations which Robert Koch and his disciples had originated during the fight against the cholera epidemic in Germany started the modern rational prophylactic campaigns against such diseases in the form in which such campaigns are carried on today, and in which they have been approved in international treaties by almost all civilized nations of the world. Further-

more, a number of germs, producing diseases in men and animals, were discovered, *e. g.*, the influenza bacillus, the bubonic plague bacillus, the dysentery bacillus, etc. The colonizing labors of the great civilized nations brought bacteriology in the course of the past decade face to face with the great problem of how to deal with and how to prevent tropic diseases, especially malaria. Here, too, great progress has to be recorded in the course of the last few years. The proof of the transmissibility of malaria by mosquitoes (discovered by Ross), the practical inferences for the prophylaxis of malaria drawn by Ross and Robert Koch from this discovery, the part that insects play as agents in the transference of blood parasites in other infectious diseases, *e. g.*, in Texas fever, (Theobald Smith), in Tse-tse disease (Bruce), are among the achievements of this last period. And if we add that the theory of that science, which concerns itself with those most delicate and complex phenomena occurring in the infected organs, has also to record many epoch-making discoveries (a place where Ehrlich's name is to be mentioned before all others), it becomes clear what a wide sphere of work and influence bacteriology has covered during the last decade.

The method adopted by the directors of the bacteriological exhibit in the idea of giving a picture of how students are introduced to all these results of scientific investigation, is as follows: every infectious disease is treated separately, just as in a bacteriological course of lectures.

The diseases and infectious germs represented in this exhibit are:

Tuberculosis, cholera, bubonic plague, leprosy, smallpox, hospital fever, enteric fever, paratyphus, coli bacteria, dysentery, malaria, syphilis, tetanus, meat poisoning, anthrax, streptococci diseases, staphylococci diseases, pneumococci, meningococci, gonococci, actinomycesis, influenza, sleeping disease, diphtheria, erysipelas in swine, contagion in swine and plague in swine, hydrophobia, glanders, bacteriology of eye diseases, diverse parasites.

Objects in connection with research in immunity therapeutics and serum therapeutics are exhibited separately. The exhibit of various infectious diseases is arranged on the principle that the observer should first examine the germ and afterwards the disease produced by it. For this reason, where the question concerns microscopic life growing upon artificial soil, the pure cultures on the various fostering soils and the poison of the bacteria are shown. The appearance of these cultures under the microscope is shown by the micro-photograms exhibited to illustrate each infectious disease and the wall diagrams drawn from original preparations. Moreover, the harmful effect of these micro-organisms upon the human or animal body is illustrated partly by pathological specimens preserved in their natural colors and partly by pictures. The diagnosis of each species of bacteria is demonstrated by the exhibition of the form of growth peculiar to them, of their especial chemical changes and of various experiments in agglutination.

A series of exhibited pamphlets serves to represent the preventive measures to be taken in epidemics and the specific treatment of the same.

In this connection numerous papers have been placed by the Kaiserliche Gesundheitsamt (Royal Board of Health) at the disposal of those interested. Pamphlets and other papers written in language intelligible to the masses show how the German Empire endeavors to make hygienic knowledge a common possession of the people.

The portable laboratories exhibited and the articles used in obtaining material for bacteriological examination (exhibited by the hygienic institutes in Breslau and Halle and the Institute for Experimental Therapeutics in Frankfort on the Main) represent the change which, under the direction of Robert Koch, has taken place in the last decade in the methods of combating epidemics. The bacteriological expert has taken the place of the former military cordons and quarantine stations, that interfered so with trade and traffic. He is sent with a portable laboratory to the place threatened by the epidemic, and there fights the plague with the arms of science without public traffic being seriously inconvenienced. Photograms show the nature of his work. Numerous wall maps and statistical objects show the effect research has had upon the decrease in the frequency of disease and mortality. It was intended that the observer should see before him, as does the student at the lecture, the origin, form, means of recognition and prevention, and the treatment of every infectious disease. In the special department for immunity therapeutics and serum therapeutics the observer becomes acquainted before all with the intimate qualities of the blood serum of immunized men and cattle upon which the specific treatment of infectious diseases is at present chiefly based. When a human being or an animal is immunized against an infectious disease new substances make their appearance in his blood, especially in the blood serum, and these new substances will protect another individual against the germ of infection with which the animal from which the blood was taken was previously inoculated. This protection is specific, *i. e.*, it operates only against that form of micro-organism with which the immunization was effected. Now, in every pure culture we distinguish two component parts, firstly, the living micro-organisms, and, secondly, their poisons, *i. e.*, the chemical substances existing in them which are inanimate and poisonous. Therefore, a serum can operate defensively, firstly, in that it contains within itself an antidote against the bacteria poison in question, or, secondly, by killing the living bacteria in the body. Accordingly, we distinguish antitoxic serums, *e. g.*, diphtheria and tetanus serums, and, secondly, bactericidal serums, *e. g.*, typhoid fever and cholera serums. The way in which these two serums take effect is here demonstrated. As an example of an antitoxic serum, tetanus serum has been chosen. The bactericidal bacteria-killing quality of an immunizing serum is demonstrated in a special series of experiments. Besides

these antitoxic and bactericidal matters, a third series of substances arises in the serum of an animal which has been immunized against certain infectious germs. These substances roll the bacteria—which, under normal conditions, lie separate from one another and thus cloud a liquid evenly throughout—into piles perceptible to the eye. These are the agglutinines. They, too, are specific, *i. e.*, they work only upon that form of bacteria against which the animal was immunized; they can, therefore, be employed as a means by which to recognize a special form of bacteria or in diagnosing human diseases. (Sero-diagnosis.) We see the effect produced by them in a great number of experiments which are exhibited.

Ehrlich's receptor theory (*Seitenkettentheorie*), the aim of which is to throw light on the nature, the origin and method of operation of the substances mentioned, is demonstrated in a series of wall maps. These show how, according to Ehrlich, the active substances found in the serum become detached from certain organs and pass into the blood. Their work here is to unite, in the blood itself, with the poison in the bacteria or with the bacteria themselves, arresting them, and preventing them from entering the system and there producing disease. According to Ehrlich, therefore, the protective process of these substances is as follows: Outposts, as it were, are set on guard in the blood, and fall upon the enemy, *i. e.*, the infectious matter, and prevent it from making its way from the blood into the organs of the body.

Considering the great importance which serum treatment has assumed in medical work, the government was obliged to supervise the preparation of serum, and see that those sera intended for use on human beings should possess the necessary standard of purity when offered for sale. In the German empire, accordingly, all the serums for human diseases have been brought under state supervision. There are numerous specimens on exhibit which show the manner in which this supervision is carried out by the Institute for Experimental Therapeutics in Frankfurt on the Main (specially appointed for this work), and how the quality of a serum is determined.

A collection of samples of all the serums produced in German factories—those for prevention, those for cure and others—and of the bacteria preparations for prophylactic inoculation, gives a general idea of the wide scope of this industry (started only in the last decennium), an industry most closely connected with scientific research.

A further series of exhibits shows that these researches in immunity have yielded the most important results, not only for the combating of infectious diseases, but also for other practical purposes. They show how, by means of the serum of specially treated animals, one can ascertain, even of small particles of tissue, whether they are from a human or an animal body, a fact which has become of considerable importance in the wide field of legal medicine.

AMERICAN PATHOLOGICAL EXHIBIT.

BY W. T. ECKLEY, M. D., of Chicago.

One of the features of the Louisiana Purchase Exposition in St. Louis, in the section of charities and correction of the department of social economy, was to interest the medical profession of America in the installation of an exhibit in the Educational Building which should be representative of the best in this country along the line of pathology. To further this great undertaking and give the same substantial moral, professional and financial support, the then incumbent President of the American Medical Association, Dr. Frank Billings, of Chicago, was requested to appoint an exhibit committee, to consist of both executive and district members. In response to this request, Dr. Billings appointed the following:

Executive Members.—Dr. Ludwig Hektoen, Chicago; Dr. A. J. Ochsenr, Chicago; Dr. W. A. Evans, Chicago; Dr. W. T. Eckley, Chicago; Dr. L. F. Barker, Chicago.

District Members.—Dr. J. N. Hurty, World's Fair; Dr. Frank P. Wynn, Indianapolis; Dr. Max Herzog, Philippine Islands; Dr. V. C. Vaughan, Ann Arbor; Dr. W. W. Keen, Philadelphia; Dr. J. S. Billings, Jr., New York; Dr. Philip King Brown, San Francisco; Dr. Ellsworth Smith, Jr., St. Louis; Dr. Allan J. Smith, Philadelphia; Dr. F. W. Parham, New Orleans; Dr. R. M. O'Reilly, U. S. Surgeon-General.

The Executive Committee meetings were held in Chicago at the call of the chairman, Dr. Ludwig Hektoen. The committee was met on two occasions by Mr. Alvin E. Pope, of St. Louis, superintendent of the section of charities and correction; Dr. Frank P. Wynn, whom every physician in America knows, not only for professional worth and prominence, but especially for the masterly manner in which he has conducted the pathologic exhibit for the American Medical Association in its annual meetings.

The American Medical Association met in Atlantic City, and with it an unusually fine pathologic exhibit under the installation of Dr. Wynn, it being the tacit understanding that this Atlantic City exhibit was to be shipped to St. Louis for installation for the season as one of the leading scientific attractions of the Exposition. Now, right here, trouble of a monetary nature began to brew between the colleges possessing the exhibits and the promoters of the Louisiana Purchase Exposition. Who was to pay transportation on the exhibits from Atlantic City to St. Louis? "Not I," said the Exposition; "Not we," said the colleges. The result was, the Atlantic City pathologic exhibit came and went as in many previous years, unmindful of a world's fair. On the other hand, articles exhibited in St. Louis were not installed in Atlantic

City. Sickness prevented Dr. Wynn's presence, and the writer was appointed in his stead to install exhibits.

It is no part of the present article to comment on the circumstances surrounding the Atlantic City exhibit further than to state the bare facts which deprived the Louisiana Purchase Exposition of one of the most attractive and useful exhibits. There were other features deserving of mention which conspired to reduce the number of exhibits. One was the unwillingness on the part of some legislatures to appropriate funds for medical purposes. Another was averseness on the part of some colleges to subject their collections of years to the vicissitudes of climate, transportation and vandalism.

Compared to what it might have been, the pathologic exhibit in the Louisiana Purchase Exposition was a mere infant in size. On the other hand, had satisfactory arrangements for transportation of the Atlantic City exhibit been made, where could room have been secured for it? This possibility suggests the proper solution of the unwillingness of the Exposition to pay freight and express for exhibitors. The Educational Building quite early became inadequate to fill orders for space-units, and for this reason the court became an extensive exhibit space, destructive as this surrender was to the architectural beauty of the Palace of Education.

The space allotted to the American Medical Association for its exhibit was the south balcony of the educational building. The balcony overlooks festival hill and the cascades, is well ventilated, enjoys abundant skylight and is in every way an ideal location.

The majority of our readers have doubtless visited the south balcony and are familiar with its attractions. I have given a passing sketch of the official history of the exhibit for the benefit of those unfamiliar with it. It was previously intimated that the pathologic exhibit was small. This is comparative smallness only—small in comparison with America's collective pathology—small in comparison with the liberal arts or varied industries. Small, however, as it was comparatively, it was many times too great for the time usually allotted to seeing the fair by the average visitor. To enumerate seriatim and in detail every instructive feature exhibited would transcend the legitimate limits of this communication; hence I deem it expedient to mention (1) those represented in the balcony; (2) to call attention to those features of the collective exhibit which have the greatest practical bearing on the medical profession and group them with reference to disease or organs.

The following exhibitors were represented: The St. Louis pathologic exhibit consisting of (1) the medical department of St. Louis University, medical department of Washington University, city health department St. Louis. Private individuals whose names do not appear in the official announcement of the St. Louis pathologic exhibit; (2) the Creighton Medical College of Omaha; (3) McGill University, Canada; (4)

Dr. James Moores Ball, St. Louis; (5) Chas. Truax, Green & Co., Chicago; (6) Dr. Gustav Fuetterer, Chicago; (7) Kny-Sherrer, New York; (8) W. R. Grady, Chicago; (9) Seabury and Johnston, New York; (10) Van Horn & Co. New York; (11) College of Dentistry University of Chicago; (12) College of Physicians and Surgeons University of Illinois, Chicago; (13) P. Blakiston's Son & Co.; (14) Lea Bros. & Co.; (15) Colegrove; (16) D. Appleton & Co.; (17) Chicago Medical Book Co.; (18) Cleveland Press; (19) Longmans, Green & Co., London.

From the view-point of the practical practitioner of general and special medicine and surgery, a critical resume of the exhibit of the American Medical Association resolves itself to (a) methods of preparation of specimens; (b) value to medical men of specimens exhibited; (c) teaching or educational usefulness of special importance.

The popular methods of preserving both anatomic and pathological specimens are, and doubtless for some time to come will be, those of Kaiserling. When preservation of color in a given gross specimen is subsidiary to that of anatomic relations the use of Keiler's formula furnishes excellent results. This is more particularly true of large pathologic or anatomical specimens in which from the nature of their importance it may be necessary to have them handled much by students for months or even years. Small specimens in gelatin, mounted in Petri dishes or suitable glass jars are handy, neat, attractive and ever ready for use.

The arrangement of specimens was such that the busy medical man in minimal time could review tuberculosis, leprosy, nephritis, cardiac lesions, carcinoma, and, in fact, nearly every disease to which flesh is heir. In osteology there was an unusually rare collection of normal, abnormal and pathological bones. Every surgical area of the body was to be studied on dissected specimens in which the bodies from which the specimens were derived had previously been embalmed with zinc chloride, mercury bichloride, arsenic or formalin, thus giving opportunity for comparison of the four most popular dissecting room preservative agents. Were one bacteriologically inclined—and where is the diagnostician who is not, however slight in many cases the *inclination* may be, here were beautifully prepared culture media a la standard, side by side with about all the authenticated bacilli, micrococci and staphylococci known to the diagnostician's art.

The exhibit of Dr. James Moores Ball, consisting of twenty-five jars, each containing a bisected, diseased or injured eye, was instructive from an artistic as well as from an ophthalmologic standpoint.

The Washington University had many valuable specimens, among which of special interest may be mentioned a series of leprous hands. Dr. Tuholske's specimen of extra-uterine pregnancy with adhesions of the placental mass to the under surface of the liver is, as stated on the label, the only specimen of the kind in the world.

It would be indeed difficult to duplicate either in variety of specimens, terse description or arrangement for the greatest possible teaching potency, a collection of skulls illustrating wounds, syphilis, osteoma and indices exhibited by Dr. Terry.

The exhibit of histologic and pathologic work of the students of Creighton Medical College was pronounced excellent by many competent judges in these respective departments of teaching, and many a teacher might very profitably emulate Dr. Foot's example with advantage to his classes and the profession in general.

The collection of foetal monsters escaped no one's inspection. The specimens are valuable, especially in the wide range of departure from the ordinary things present. The collective freaks of this kind in America would doubtless make an impressive spectacle; the number, however, in a single state is comparatively small. Why could not by concerted action all such in this country be gathered together and be placed in some one's hands for exhibition annually at the American Medical Association? In this manner every physician might have an opportunity to see a class of specimens not otherwise accessible.

The only work along lines of investigation and original research were by Dr. Fuetterer, of Chicago, on production of genuine epithelial metaplasia artificially produced in the stomach. For a full report the reader is referred to the *Journal of the American Medical Association*, October 25, 1903.

McGill's specimens were entirely pathologic, and in point of artistic mountings and variety first-class.

The bacteriologic exhibit of the department of health of St. Louis was practical, comprehensive and covers in a most masterly manner a field second to none in medicine.

The College of Physicians and Surgeons of Chicago had a large collection, both pathologic and anatomic specimens, mostly work of the students of the school and of post-graduate students. Among some of the most interesting and instructive may be noted the pelvic, head and corrosion dissections.

In its totality the specimens presented represented very thoroughly the museum and working specimen found in American colleges. Until we have a uniformity of retainers we may expect just what we have at present—fine specimens in inferior jars. After all, the scientist in his love for the beautiful in a pathologic specimen loses sight of the æsthetic side of the subject as revealed by the mere retainer. As, however, appearance oft doth make the man so in medicine, we are fast approaching a time when our museum habilaments must rightfully count for more than at present.

SURGICAL LESSONS FROM THE EXPOSITION.

BY WILLARD BARTLETT, A. M., M. D., of St. Louis.

Now that the Louisiana Purchase Exposition is but a memory, it is quite natural, with the picture still so fresh in mind, for the observer to review in retrospect the pleasant and profitable gleanings of the past seven months. First and foremost, each turns as a matter of course to the field of endeavor which is particularly his own, the one in which his interest is peculiarly centered. The arts and the sciences were so liberally represented, that the average visitor was able to indulge his especial taste to the utmost. The teacher and practitioner of medicine were in their element if only fortunate enough to locate the exhibits of special interest to them. As far as surgery alone is concerned, it cannot be said that the quantity of material was unlimited, though the quality was above reproach.

In the world of music, it is usually held that the composer takes first rank, the teacher second and the performer third, as far as the value of their respective services to mankind are concerned; and it would seem that in so far an analogy between the study of music and the study of surgery might be drawn. Thus the original worker, the teacher of surgery and the operating surgeon would, in the order named, rank as benefactors of their fellow-men. Recognition of the value of the two first named, as well as the impossibility of illustrating the third division of surgery, made it imperative that the lessons of the Exposition should be to a great extent those of teaching methods and to a lesser degree those of original investigation. The history of surgery was interestingly touched upon in isolated cases, though apparently no systematic attempt was made to depict in sequence the advances which have made the surgery of today what it is.

Germany and Japan co-operated with our own country in making the surgical aspect of the "Fair" a thing of interest and worthy to be remembered. The first mentioned nation, with the enviable reputation of having the most extensive and valuable general exhibit of any of the foreign governments, made a display of surgical teaching methods that was fully in keeping. In fact the prestige of the German university was upheld in no uncertain way.

The display of a model operating room, with an aseptic operation in progress, was one of those which attracted liberal attention in the U. S. Government Building. Another of the few exhibits from which might be derived an idea of the arrangement of an operating room, as well as of the aseptic paraphernalia, was that of the Johns Hopkins training school for nurses. There was much profit to be gained along the sameline by a study of the model hospital plans exhibited by Dr. Ochsner, of Chicago. Having been at the head of a large surgical hospital for many

years, he was, as a matter of course, in a good position to embody in his proposition many ideas which his experience had shown to be essential to the best performance of the work of today.

An instructive contribution to the surgery of the cranium is found in the St. Louis pathological exhibit. The various traumatic affections of the skull, as well as many of the diseases of its bones are faithfully depicted. Under the first head are shown the effects of blunt violence, bullet wounds, saber cuts, etc., while under the second tumors of the bone, various inflammatory lesions, micro-cephalus and hydro-cephalus, together with many other stigmata of semi-surgical interest, are to be found. Among the specimens which are more than usually instructive, are several which show how large bone defects of the skull tend to heal, viz., by bridging of the defect with an extremely firm, heavy layer of non-osseous connective tissue. Evidently this was sufficient in the examples shown to prevent any tendency to hernia cerebri, since there is no outward bulging in any one of them.

While the display of the university of Illinois, on the same balcony as the last mentioned, deals really to all intents and purposes with anatomy as such, still there are many of Prof. Eckley's beautiful dissections which cannot fail to be of practical interest to the surgeon as well as to the general student of anatomy, which it will be admitted every medical man should be. The collection is so large as to embrace almost everything in the realm of human anatomy; hence any mention of individual subjects is superfluous.

In addition to her display of operating paraphernalia and surgical instruments, Japan showed one feature of historic as well as of practical interest to the surgeon. Reference is made to Prof. Kitaisato's demonstrations, in the educational building, of the methods invented and used by him, in the well known work he did in establishing the etiology of certain specific infectious diseases. This display is carried out by using models and imitating the different steps in the experiments on animals which the famous author performed, showing the original instruments and illustrating the manner in which they were used.

Germany's exhibition of her methods of teaching medicine was easily superior to anything else of the sort at the "Fair," this being true both with regard to quantity as well as quality. It represented the systematic and concentrated effort of not only several of the German universities, but that of many of the German firms which are engaged in the manufacture of all the various apparatus and supplies used by student, teacher and practitioner. Of course, this feature added to the excellence and practical value of the exhibit as a whole, though it in a measure placed other educational showings at a disadvantage, for the simple reason that the average educator and manufacturer failed to pool their issues, although there is no good reason why they should not have done so, and

even if they had, there is still good reason for the belief that the German display would have still been first and foremost.

About one-fourth of the German medical display was given over to surgery, the following universities being represented: Berlin, Breslau, Kiel, Königsberg, Leipzig, and the hospital "zu Hamburg-Eppendorf," the two first named furnishing by far the greater portion of the displays, while the rest were represented to varying lesser degrees.

Germany chose to be represented by two of her university clinics, those of Berlin and Breslau, the first presided over by Bergmann and the second by Mikulicz. The exhibits of the two were arranged in separate but adjoining rooms, and it may be that a spirit of friendly rivalry was, in small part, responsible for the excellence of both. The endeavor was to illustrate as fully as possible the newest methods of teaching surgery in a German university, in which the sense of sight as well as that of hearing, is used to the fullest extent, in contrast to the old way of leaving the student to content himself with a mere description of symptoms as well as treatment. As an example of what is meant, it may be noted that the student in the Berlin clinic, sees in connection with the description of a tumor of the shoulder: 1, photograph of the patient with the tumor in situ; 2, radiograph showing, if possible, the origin of the growth; 3, specimen after exarticulation at the shoulder joint; 4, microscopic section through the mass. Of course, all of this is possible for a man who has seen the patient before, during, and after the operation. This surely represents about the highest development of surgical teaching, and is in sharp contrast to a mere description in a course of didactic lectures.

In the teaching of operative surgery at Bergmann's, considerable stress has been laid recently upon the value of models in this connection, hence we find a number of these colored models, of life-size, illustrating in series, the various steps in this or that operation. Removal of the tongue, radical cure of inguinal hernia, performance of gastrotomy and removal of the larynx, are some of those shown. This arrangement has the great advantage of being permanent, though, of course, it is something which would appeal to the beginner alone: however, it shows what an expensive and laborious preparation a German university considers justified, in supplementing a course of surgery on the cadaver.

In addition, there are shown from the Berlin clinic many microscopic drawings of superior quality, photographs of surgical diseases, and instructive radiographs without number. One interesting model shows an improved table or table-bed for the primary treatment of fractures under the direct inspection of the bones, which is afforded by the fluoroscope. Apparently little confidence is placed in the mere manual reposition of fractured and dislocated extremities, since there is shown a most elaborate apparatus for the application of constant traction in any

direction, while the lesion is under the constant control afforded by the "X-ray." Certainly little is left to chance, where it is possible to use such methods.

The "Mikulicz Room" is equally as interesting as that furnished by Bergmann, and may be truly said to bear even more strongly than the other the personal impress of the Breslau master. That is, the exhibits are along lines in which Mikulicz has made himself famous, viz.: Orthopedic surgery and the surgery of the abdomen. Here the older and well-known aids in teaching, charts, drawings, etc., have been entirely left out of consideration, and the newer methods alone considered, chief among them being the Roentgen photography and casts made from the living body. Of the latter, a large number are used, eleven different diseases of the knee being elucidated, showing in a striking manner how nearly alike in outward manifestation entirely different maladies of this member may be. The number, variety and value of these life-size casts can be appreciated when it is known that ten are on sarcoma femoris, three on tuberculosis genus, three more on the same subject, three more on the same subject with resection, five on arthropathic tabica genus, two more on the same subject, two on osteomyelitis femoris chronica, three on corpus liborum genus arthritis deformans, four on fractura patellæ and one on gonitis gonorrhoeica. The fame of Prof. Mikulicz as an abdominal surgeon is even greater than that as an orthopedist, hence his casts representing abdominal operations attracted an unusual amount of interest. First came the eleven abdominal incisions which are used by Mikulicz for approaching the various organs. Of greatest interest possible were the casts which represented the different steps of certain stomach operations, containing a correct representation, as we are assured, of the master's hand covered by his famous "tricot" gloves, which, it must be admitted, have been replaced almost everywhere else by rubber gloves. We are shown a gastroenterostomy, which is done by an original method, the incision in the small intestine being as high as possible and across its axis. A pylorus resection by the first Billroth method, with the Breslau ideas of treating and connecting the stumps, next claims our attention. But most interesting and of greatest practical as well as historical value, are the models illustrating the removal of a tumor in the large intestine at two sittings. It will be remembered that Mikulicz made the contribution to surgery which enabled us to reduce the general mortality from 40 per cent. to 10 per cent. in the operative treatment of cancer of the colon, when he showed us that the operation should be done at two sittings instead of one. Since his original proposition the technique has been improved upon by others, still his original principle remains the same. The photographs and radiographs illustrating work done upon the œsophagus are sufficient to show what a place the Breslau clinic is for strikingly successful surgery. By means of the œsophagoscope four

dental plates were found and removed through the mouth, three pushed into the stomach and ejected through the rectum, to say nothing of the vast number of miscellaneous objects detected thus and removed by external cutting operation.

To one who is impressed by striking personalities, the contribution of the German Surgical Society (*Deutsche Gesellschaft fuer Chirurgie*) could not fail to be interesting. It consisted of the portraits of thirty of its most distinguished members, past and present, viz.: Langenbeck, Bergmann, Mikulicz, Koenig, Esmarch, Dieffenbeck, Bramann, Busch, V. Bruns, Socin, Thiersch, Riedel, Volkmann, Kocher, P. Bruns, Bier, Kraske, Angerer, Simon, Madelung, Czerny, Kuester, Scheede, Schoenborn, Eiselsberg, Trendelenburg, Braun, Gussenbauer, Billroth and Bardeleben—a gallery of the men who have shaped the lives and in a large measure been responsible for the success of the younger generation of German surgeons, to say nothing of the multitudes from every land who have flocked to the Mecca of medical learning after exhausting the resources of their home schools and hospitals.

It is hardly possible that any one of us could have seen or known all of these stalwarts; in fact, it is much more likely that most of the medical men who viewed their features in portraits at the Fair, did so for the first time, at least as far as the majority of these noted teachers are concerned. For the man who has based his knowledge of our science upon "Billroth's Surgical Pathology," as the younger generations have been obliged to do, the sensation of gazing upon the master's features can have been none but a pleasurable one. Eiselsberg, though a comparatively young man, Billroth's former pupil and assistant, cannot fail to be of interest to the surgeon on account of his goitre work, if for no other reason. Max. Scheede, who died all too young, as the years of usefulness of a German surgeon are counted—the man who deserted an immensely lucrative practice in Hamburg for the honor of a chair extended to him by the small university at Bonn—is best known to us, perhaps, on account of his pioneer investigation on the kidney. Prof. Czerny has always ranked pre-eminent as a teacher and operator, and it is due to his personal efforts that Heidelberg has for twenty-five years held the position which it today occupies in the surgical world. To Prof. Madelung we owe our earliest accurate knowledge of the echinococcus and its surgical aspects. His earlier years, spent in a teaching capacity at Rostock on the Baltic coast, furnished him with an ample material which was peculiarly fitted to his study. If for no other reason, the face of Prof. Simon would attract attention because he was the first to extirpate the human kidney. Prof. Kraske is generally acknowledged to have been the pioneer whose investigations on the surgery of cancer of the rectum marked the beginning from which the present methods in the treatment of that subject have been developed. The name of Prof. Bier is inseparably connected with the treatment of joint and other in-

flammatory affections by hyperemia. The name of Kocher stands so high in the literature of surgery that it seems almost superfluous to mention any of the many original investigations accredited to its possessor. A knowledge that he is now performing his third thousand goitre operations, and an introduction to his work on the "Technique," ought to be sufficient for a man who had never heard the name. As long as skin grafting is performed, the name of Thiersch will be inseparably connected with it. To Esmarch we owe the knowledge which enables us to operate under artificial local anemia. Prof. Koenig, who has just resigned his professorship of surgery in Berlin and removed to the beautiful little university town of Jena to spend his remaining days, did more than any other one man to elucidate the subject of joint tuberculosis and to found its rational surgical treatment. The leading European abdominal operator of today is undoubtedly Prof. Mikulicz, of Breslau, to say nothing of his striking originality in many other lines. Prof. Bergmann's many original studies on the surgery of the head need no detailed mention. He is at the same time, as the head of Royal University Clinic in Berlin, the greatest of all the European medical centers, perhaps the most visited surgeon in the world. The marble bust, which has the position of all honor, is that of grand old Langenbeck, that prince of operators, whose dexterity has never been equaled since his time—the surgeon whose technique, as regards speed, met the requirements of the period when the patient was strapped down because the blessing of anesthesia was unknown.

With the achievements of only half of them mentioned, is it then any wonder that Germany is proud to point to this galaxy of her illustrious sons, and that her representative surgical society sends them to our exposition, it may be to inspire some of those who behold them to emulate the example they have set.

THE GERMAN HYGIENIC EXHIBIT.

BY REGIERUNGSRATH DR. BREGER.

IMPERIAL BOARD OF HEALTH, BERLIN, GERMANY.

The increasing success with which the principles of modern hygiene have been applied to practical life have led to its development from the region of pure theory into a powerful factor, influencing state administration in all its branches. Obedience to its laws has caused the recognition of the fact that the maintenance of the health of the individual is the chief requirement for the healthy growth of the state. In such places, therefore, where the nations of the earth meet in friendly competition to exhibit the results attained in manufacture, science and art, hygiene is beginning to occupy a prominent position. It was the aim of Germany to show the educated public, as well as the scientist, at St. Louis what has been accomplished by hygiene and to present in a special German hygienic exhibition descriptions, illustrations and models of all discoveries which her scientific investigators have made, as well as all practical achievements of her specialists, in technical hygiene.

A recognition of the social-political principle, that the working capacity of the human body is capital which bears the highest interest, has been reserved for the present generation. This principle necessitates the maintenance of a high degree of health in individuals, and consequently imposes upon physicians not only the task of curing disease, but that of preventing it. All progress in this direction is synonymous with economic gain. On the other hand, health is the source of a nation's ability to defend itself and the first condition for the recognition of a nation's power by other countries. The acknowledgment of this fact has induced Germany, in the last few years, to extend hygienic activity, hitherto applied solely in public affairs, to the preservation of the health of the individual. Influence is thus not only brought to bear on state and communal hygienic institutions, but on the life of each individual, thus nurturing a race powerful and robust enough to fulfill the tasks imposed on it by cultural progress.

All hygienic improvements in Germany, however, have not originated solely in utilitarianism, but have their source in a spirit of brotherliness frequently found in circles having ideal views of life. The aim in view is to help the poor, the weak and the diseased, and thus institutions are called into existence which simultaneously fulfill social-political demands. The wealthy classes do not hesitate to unite with the state and community in promoting hygienic interests, and this aid has found systematic and active expression, as will be shown later on. These private undertakings also include organizations devoted to special purposes, whether relating to the health of the individual or of the general public. The German Society for Public Hygiene stands at the head of these

movements, and for twenty-eight years has endeavored in itinerary meetings to call the attention of authorities and private individuals to important hygienic problems, to aid in furnishing scientific and technical solutions and above all to educate the general public. The time-honored Meetings of German Naturalists and Physicians form a special group, and have propagated hygienic questions far and wide. The German Society for Popular Hygiene endeavors to improve the health of the individual in all directions, supplementing the work of the German Society for Public Hygiene. The German Red Cross Society has also included hygienic propaganda in its program, and among other societies with similar aims may be mentioned the German Society for School Hygiene, the German Society for the Suppression of Quackery, the German Society for Public Baths, the German Committee for the Investigation of Cancer and the German Society for the Suppression of Sexual Diseases. The periodicals published by the various societies afford the general public a mass of instruction and at the same time offer ample material for treating the questions at issue.

The development of hygienic institutions in Germany is chiefly due to *German Science*, which has so ably adapted itself to the needs of life and has opened the way for practical work by careful and successful investigations. The Munich school, distinguished by the name of Max von Pettenkofer, introduced hygiene into public life. It is, furthermore, universally recognized that the great discoveries of Robert Koch are not only of vast scientific importance, but have proved of great value to public and private hygiene and practical veterinary science.

The participation of the government in public hygiene led to the formation of a central technical administrative institution, the Imperial Board of Health, directly subordinate to the Imperial Department of the interior, and bearing the character of a council. This institution was called into existence towards the end of April, 1876. Its duties consist in supporting the government in preparing and putting hygienic-police measures into practice and in observing their effects as well as in furnishing official information to the authorities in all cases when required in observing the development of hygienic-police and medical legislation in foreign countries and in compiling medical statistics in Germany. In order to be capable of meeting increased demands, and above all to supplement and test all scientific investigations by special experimental work, the board of health is furnished with laboratories, which are constantly being extended and enlarged.

The Imperial Board of Health is aided by the Imperial Hygienic Council, which actively supports all the federal governments in matters regarding public hygiene. A special committee of the Imperial Hygienic Council is engaged in compiling a German pharmacopœia.

A large number of hygienic matters have been regulated in co-operation with the Imperial Board of Health, partly by government legisla-

tion or decisions of the Federal Council and partly by proposal of the administrations of the several federal states. The most important regulations are those regarding the examination of physicians, the decision of the Federal Council of June 28, 1899, concerning vaccination, to the vaccination law of April 8, 1874, the law enacted June 30, 1900, for the suppression of diseases endangering public health, the rules for carrying this law into force, the measures for the suppression of typhoid fever, regulations for the transport of corpses, regulations concerning the police control of ships entering German harbors, the law passed May 14, 1879, pertaining to trade in provisions, table delicacies and useful articles, the laws passed June 23, 1880, and May 1, 1894, pertaining to the prevention and suppression of disease among animals, the law passed June 3, 1900, pertaining to the slaughter of animals and examination of meat, and the regulations for carrying this law into force.

The activity of those authorities concerned with the protection of workmen is not less important and extensive, and this includes in the broadest sense the social legislation for insurance against disease and old age. Factory inspectors supervise the various industrial enterprises, and take care that hygienic requirements are complied with in the workshops, especially with regard to ventilation, light and cleanliness. Furthermore, the interests of workmen are especially guarded by very strict legal provisions in establishments exposing employes to danger without, however, being detrimental to the work done in the establishment.

Based on trade regulations, the imperial regulations pertaining to trade in drugs were passed October 22, 1901. These determine the drugs, the trade in which is restricted to apothecaries. With regard to trade in patent medicines, etc., the several governments have complied with a resolution of the Federal Council recommending the enactment of a law containing similar regulations; this has been in force since January 1, 1904.

The Imperial Board of Health has, furthermore, undertaken the grateful task of bringing hygienic instruction into house and family, school and workshop. Numerous popular printed pamphlets give evidence of the able manner in which a systematic enlightenment of the general public as to hygiene has been effected.

The administration of the medical and veterinary departments of the police is carried on by the governments of the various federal states. Numerous laws have been passed by the several states in all those departments which are not yet administered by the empire, as, for instance, in the hygiene of dwellings, in the care of the insane, in midwifery, in the school hygiene, in the suppression of local infectious diseases, etc. These regulations are enforced by the local police authorities, and they thus constitute a body constantly employed in safeguarding the welfare of the people.

The progress of German industry with its hosts of workmen in the the large trade centers has considerably hastened the growth of cities. Such a rapid increase in the population of a city often exerts an injurious influence on its inhabitants. It was therefore no easy task for the respective communities to establish such institutions with circumspection and rapidity, which were capable of nullifying this danger, without disparaging the reputation of large German cities for being abodes of education, culture and health. The municipalities were equal to the task, as was proved by the exhibition of German cities, held last year at Dresden, which can be designated as a brilliant representation of German municipal institutions, German patriotism and municipal self-government. A selection was made by experts from the hygienic articles exhibited there for exhibition at St. Louis.

Everything is represented that has any connection with the hygiene of communities, among which may be mentioned water supply and sewerage, hospitals and bathing establishments, building police and habitations, school hygiene and disinfection, slaughter houses and flaying establishments. A competent judge will find many objects showing the results of extensive research publicly exhibited for the first time. In the water supply exhibit one of the chief novelties is a process of removing bacteria from drinking water by ozonizing it. The method of double irrigation is also new, whereby waste water, which has once passed through fields, can be utilized for agricultural purposes and rendered perfectly pure, by conducting it over meadows before its outlet into an open watercourse. The artistic wall paintings exhibited by the imperial board of health are both new and instructive. They represent the most important methods of water supply and sewerage in landscape style, and are intended to arouse interest and draw attention to their importance.

Since the discoveries of Robert Koch a revolution has taken place in Germany as regards to practical methods of suppressing epidemics. This is shown by the special measures provided against the several kinds of infectious diseases. Every contagious disease has its peculiarities in regard to disease germs and method of spreading. Consideration was paid to this fact by adopting certain measures, and these were represented in the exhibits.

A special chart represents the fact that in the struggle against cholera drinking water is the chief point to be attacked. It is generally believed that the plague is often dangerously spread by rats, and as none of the five continents of the world are free from plague, every harbor is constantly in danger of being infected by ship-rats which are afflicted with the disease. An apparatus for exterminating rats on ships, invented by a member of the commission appointed by the Imperial Hygienic Council, was greeted by all harbor authorities as a valuable weapon against the plague.

All efforts to prevent small-pox from spreading would be fruitless if vaccination were not general: but the liability to contagion can be removed by means of vaccination. The great attention paid in every civilized country to the suppression of small-pox makes a demonstration of German legislation in regard to vaccination and the success which has been attained especially valuable. Small-pox is of enormous international interest. Owing to the rapidity of modern international intercourse by land and sea on the one hand, and the long incubation period of the disease on the other hand (*i. e.*, the time between contagion and breaking out of the disease), a person can, for instance, become infected in St. Petersburg and show the first symptoms after arrival on the Pacific coast, thus establishing a new center for the disease.

The vaccination law having been in force in Germany for thirty years the misery and terrors of an epidemic of small-pox are unknown to the present generation. As a native disease it is entirely unknown there, and if a case occurs now and again, it is always one that has been imported from foreign countries. It is comprehensible, therefore, that such cases occur on the frontiers and in towns on the coast. The number of small-pox cases in Germany were as follows: 1898, 129; 1899, 346; 1900, 392; 1901, 375; 1902, 112.

In order to realize the significance of these small numbers they should be compared with those of the City of New York*, where 1,964 cases of small-pox were registered, and with St. Louis†, where 1,916 cases occurred during 1901.

The success of German vaccination legislation has been repeatedly recognized by foreign countries. It was pronounced excellent at the Ninth International Congress for Hygiene and Demography in Madrid, and served as a pattern for the resolutions passed at the Tenth Congress, held in Paris. The "Comite Consultatif d'Hygiene" in France has projected vaccination regulations,‡ which agree in all important points with the German laws. Since the experiences of recent small-pox epidemics England is also about to establish vaccination laws.§

In the suppression of typhoid fever Germany has recently made great progress. Knowledge of the fact that the patient himself causes the greatest danger of contagion was of the utmost importance. Apparently harmless cases, those afflicted very slightly, and, above all, cases of children have proved to be extremely dangerous sources of infection. Freedom of movement facilitates the spreading of infected germs more than in cases where patients are confined to their beds. In order to suppress abdominal typhoid fever, the greatest consideration must be

* Annual Report of the Board of the Department of Health of the City of New York for the year ending December 31, 1901, p. 33.

† Annual Report of the Commissioner of Health for the year ending March 31, 1902.

‡ Bulletin de l'Academie de Medicine, 1903, p. 131.

§ The Medical Magazine, 1902, p. 695.

given to acquiring a knowledge of the source from which the disease spreads: it is therefore necessary to investigate each case of typhoid fever and discover where the contagion originated. A bacteriological diagnosis furnishes reliable information here. This task can, however, be carried out solely in bacteriological laboratories: the establishment of these has begun in many parts of Germany, and the results of their activity will prove beneficial to all parts of the Empire.

The efforts to suppress tuberculosis are mostly carried on in social departments. Medical science and social reform work here in unison. A spirit of humanitarianism has prompted the German "hospital-home" (Heilstaette) movement, and its efforts have been crowned with success. Enthusiastic aid for this magnificent work, which is worthily represented in the exhibition, is offered by charitable societies, legacies, insurance associations, hospital-home societies, communities and private individuals. All efforts are centralized in the "German Central Committee for Establishing Hospital-Homes for Consumptives," founded in 1885 under the protectorate of Her Majesty the Empress, with the Imperial Chancellor for its chairman.

In addition to the treatment of curable patients in hospitals, a second and equally important task consists in providing invalid homes for incurable workmen, thus diminishing more and more the danger of contagion.

In several federal states further measures against tuberculosis consist in compulsory registration of cases and disinfection of dwellings. Steps in this direction can only be taken very gradually, as it cannot yet be foreseen whether such strict measures can be introduced generally.

The measures best adapted to the suppression of leprosy consist in placing persons afflicted in a hospital-home. On the eastern boundaries of the Empire, near Memel, where cases have already appeared, a leprosy hospital has been established. In spite of its small size, all claims made on it can be fulfilled. Exhibits have been especially made concerning it on account of its great hygienic importance.

The contagious diseases already mentioned and their suppression, together with other infectious diseases of human beings and animals, are represented in the medical department of the German Educational Exhibition. This is the united work of the Imperial Board of Health and the Royal Prussian Ministry of Education, especially of the Institute for Infectious Diseases.

An important task of public hygiene in Germany is considered to lie in the control of trade in foods and table delicacies. The Imperial Board of Health takes an active part in all work belonging to this branch, testing methods of investigation in its own laboratories, furnishing theories and determining the value or worthlessness of preservatives. A model laboratory for examining foods has been located in the Agricultural Building, directly adjoining the collective exhibition of the

German Food Industry, and it was intended that this location should serve as a reminder that Germany makes the most severe demands on its own productions in regard to purity and freedom from adulteration. All German foods and beverages are subjected to a strict control in their own country.

All these efforts of public hygiene, together with the constantly increasing information concerning medicinal and natural scientific facts, the extension of sanitary and social-political legislation, municipal activity, and last, but not least, the willingness and charitable feeling of the people in Germany, have constantly effected a decrease in disease. The results of these united forces are shown in a decrease in mortality.

The total mortality in places containing over 15,000 inhabitants was reduced, during a quarter of a century (1877—1901) by 7.3 per 1,000. || Whereas 27 in 1,000 persons died during 1877-78, only 19.7 died in 1901.

The division of these figures under the several headings shows a constant decrease of all preventable diseases during the above mentioned twenty-five years.

In 1901 only one person in 1,000,000 inhabitants died from small-pox and typhoid fever, whereas in 1877 respectively six and sixteen times as many persons died.

In 1877, 46 persons in 100,000 inhabitants died from abdominal typhoid fever; in 1901, only 11.

The number of deaths from puerperal fever has been reduced to one-third of their original number; *i. e.*, from 15.4 to 5.5 in 100,000 inhabitants.

In 1877, 372 in 100,000 inhabitants died from consumption; in 1901, only 205.5.

In 1877 the mortality from diphtheria was 104; in 1901, 27 in 100,000 inhabitants.

During the last quarter of a century the mortality from measles decreased from 30 to 25 in 100,000, and from scarlet fever from 61 to 23.5.

We trust that the exhibition has obtained the approval and interest of all those engaged in hygienic work, and that it will aid in extending the reputation of Germany as a healthy and progressive country to all parts of the world.

|| Statistical Quarterly of the German Empire. Published by the Imperial Statistical Department, 1903, Vol. 3, p. 177.

REMARKS ON THE GERMAN EXHIBIT OF METHODS TO
PREVENT INFECTIOUS DISEASES.

BY CARL FISCH, M. D., of St. Louis.

The prevention and extermination of infectious diseases is a side issue of the trend of modern practical medicine to prevent disease rather than to cure it. Cure means the re-establishment of a so-called normal condition, or at least the re-establishment of a condition, to our eyes identical with the normal. The way in which such a re-establishment is brought about, is a secret of our organism into which we have not penetrated sufficiently to understand it fully. We have learned, however, that we cannot specifically influence a cure, that we can only stimulate the tendency to cure to do its work. The degree to which we can do this varies in the different pathologic processes, and nowhere will we succeed without the helping hand of nature's *vis medicatrix*. This hand will not be held out to us unless we have discovered the causative agent of a pathologic condition: only under this condition will we be able to act on it in a way that nature's efforts may be effective. And it is a fact that the elucidation of the etiology of diseases enables the great progress of modern practical medicine, based as it is on the totality of our knowledge in all of the various branches of biologic science. Knowing the existing cause of a disease, and admitting at the same time our comparatively limited means of influencing the course of a disease, medicine began to utilize the knowledge of the cause for the elimination of the possibility for the arising of such a cause. In recognizing that normal and pathologic conditions are only conceptions of our human limited perception, that there is no sharp boundary between the two, and that the one is nothing but a one-sided deviation from physiologic, so-called normal harmony of the inter-relation of the different parts of an organism, it was led to devise means to keep this harmony intact, and to develop it in its highest perfectness.

Of course, here, too, the way is barred by many obstacles. Our intimate knowledge of this harmony is, and must be, necessarily crude, we will never be able to do more than to guess at its beauty. It is finally only a conception of our mind, and what we take to be proofs of its real existence, are facts and observations made with our organs of perception, imperfect as we know, and in character always and unavoidably human. We cannot get beyond them, no matter what philosophy may say.

The question that hinges on this point is whether the way adopted by modern medicine and hygiene to prevent disease is subservient to natural conditions, or speaking anthromorphically, is it in congruence with natural laws? Do we help nature by it, or do we obstruct its course? To answer this question definitely, is of course excluded: its justifica-

tion, however, ought to be recognized. In one direction, an answer may be given in a positive sense, with a high degree of certainty, that it is in the direction of the modern attempts to lead us back to a more natural life, an attempt comprising all of the hygienic and sanitary improvements of our time, that are so beautifully exemplified by the various hygienic and especially the German exhibitions. What can be done in this line, and what ought to be done to bring the race to a standard, although a voluntary one, is suggested by these demonstrations definitely and clearly. It is not my part to enter into a discussion of this side of the question, although it can be safely said that prevention of diseases in this way will be a certain consequence.

As to the extermination of infectious diseases, the question is less easily answered. There is no doubt but that a general and uniform improvement of our hygienic life and habits would, in the course of time, decrease the acquisition of infectious diseases; it certainly will do so in tuberculosis: most likely it will do so in other infectious diseases. The belief in this is based on the death-rate caused by these infections, a rate that comprises even in the most serious epidemics and after the same conditions of exposure always only a certain percentage of a population. We have reason to think that this is not due to accidental causes, but to inherent qualities of the individuals. We know that whole populations after a severe epidemic, a "Durchseuchung," as the Germans say, can remain free afterwards.

Theobald Smith has lately suggested many valuable points about the mutual relation of the host and the pathogenic micro-organism, that in its development most likely follows that of all other biologic processes. They come and go, and stages of their development we observe in the relative superiority of the one or the other in the great variety of infectious diseases. No infectious disease will remain forever the same in its clinical aspect, and a stage will be reached in all of them where there will be no antagonistic action between the two parties and a symbiosis exists, that only through intercurrent disturbances of the equilibrium can be changed to a fight. That this is so, we know, from certain well authenticated occurrences. Mankind will not perish from epidemics, nor be interfered with in its progress by them, unless it, by its own fault, weakens its position. To a degree this latter possibility may have become truth by the innumerable invasions, that civilized life makes on our natural constitutional qualities. It will be a long time before modern hygiene has generally established a condition that can be used as a rational basis for not only entertaining such views on infectious diseases, but for putting them into practice and to live up to them. As it is now we must protect ourselves by all means. Our momentaneous claims on life are so great that human life has become the most valuable thing on earth, and that the saving of life means an addition to our momentary resources.

We have no time to wait for developments; we, according to our means and knowledge, must ourselves open the fight and try to destroy that enemy which by its sudden attacks claims our life. For the fight in this direction against the acute infectious diseases, the last twenty years have furnished a great deal of material of the utmost importance. This material is most emphatically collected and represented in the German hygienic display. The causative agents of the diseases have been discovered: they have been followed step by step through the infected individual, they have been studied in all of their biologic and parasitic features to an extent that they easily can be confined and made innocuous. Theoretically, it should be easy to eliminate them altogether, if only our physical means were sufficient. That for certain diseases, however, such a possibility exists, and that by concentrated energy the final result can really be reached, that is the great object of the representations given in this exhibit.

There is one reigning idea in all of it, it is the originality and the genius of Robert Koch, that speaks to us. What he has taught us about tuberculosis, that the only essential source for its transmission is the human tuberculous patient, we find widened here to a thesis comprising all of the acute infectious diseases. There is no epidemic of any of them possible unless the transmitting vehicle (air, water, insects, etc.), is charged with the microbes living in an individual suffering with the disease conveyed by the vehicle. We knew this, and the gigantic attempts at protection by water regulation, sewage disposal, mosquito extermination and wholesale sterilizations of the every-day necessities, was the expression of our appreciation of this truth. But it soon became apparent that it was impossible to keep up this mode of protection indefinitely, and that it could not be carried out to the extent of excluding all possibility of danger: the financial consideration alone excluded this. This is the point where Koch's work set in and that of his disciples, the ripe fruit of which we have seen before us. Like all of Koch's discoveries, it surprises by its simplicity and clearness. Koch recognized that since transmittance of an acute infectious disease in most cases came about by a direct or indirect contact with the excretions of a patient suffering from the disease, it was necessary to render such contact impossible. The only way to prevent it is to destroy the microorganisms as soon as they leave the body or as long as they are in his system, like in malaria. The isolation of such a patient, and a constant control of his excretions and secretions, are the only rational means possible to prevent the patient from becoming a disseminator of the disease. In this form the solution of the problem appears very simple, so simple that it appears not even surprising. And still it must be surprising if we compare, for instance, this simple solution to the endless and tedious work done daily on a problem like the length of time that a typhoid bacillus could live in water. What does the information about

this mean practically when we have it so easy to prevent a contamination of the water? We have fully learned that protection alone by the above named sanitary methods will never become infallible, nowhere and under no conditions, unless the possibility of a contamination can be excluded. This cannot be done absolutely without a control of the individual patient, and in the future every attempt will fail that does not start from this axiom. If we think that the elimination of infectious and contagious diseases is one of our most important tasks, we cannot possibly achieve it in any other way. This is the meaning of the German Exhibit so direct and logical that everything else merely serves the purpose of emphasizing its inner truth and correctness. It accounts for phenomena so far not understood, it is the scientific result of their investigation. It is given to suffering mankind if it will accept it.

The way in which this demonstration is made, is well selected and noble. It consists in the representation and demonstration of every step that has been made before arriving at the final result. It would be of no interest to mention details to prove this, nor to refer to special methods, procedures, or apparatus. They are of specialistic interest and do not concern us here. But what must be expressed is an admiration of the method to disseminate the knowledge and to impress on the public the importance of the results obtained by an excellent series of freely distributed publications. Written with absolute scientific objectiveness, and nevertheless in a language easily understood by any reader not specially prepared, this collection of pamphlets is a beautiful exemplification of humanitarian work.

This problem of preventing infectious diseases, is the pivotal point of the exhibit. So far only the most impressive side has been discussed, the elimination of the causative agent. There are other methods that must be at least mentioned, of which the representations given are exceedingly valuable and full of new suggestions. This refers in the first place to the active immunization against certain diseases, and, above all, to smallpox. The methods of vaccination have been worked out in Germany to a degree that can only be appreciated by a close study of the statistics of the results. There are new processes for the obtaining of sterile lymph, for preserving it, etc., that alone would fill pages to be described.

The directions for vaccination are of a definiteness and clearness that, if followed, would make the process absolutely safe. But all of these results do not greatly widen our views or alter our methods of procedure. The same obtains, of course, for those means to be used in the active fight against the developed disease, the antitoxic sera. Germany's reputation for the excellence of these products is established, and it would seem unnecessary to try to impress it by an exhibition of antipneumococcic and other sera. Perhaps this could not be avoided.

The institutions organizing the exhibit mainly desired to impress the

utilization of scientific investigations for the combatting of acute infectious diseases. They have done it in a way so superior to everything else shown with a similar intention by other countries, that even Japan would appear little beside it. So, I may be allowed to confine my remarks to the German exhibit.

THE FIGHT AGAINST TUBERCULOSIS AT THE LOUISIANA PURCHASE EXPOSITION.

BY ALBERT E. TAUSSIG, M. D., of St. Louis.

In the southwest portion of the palace of education lay a group of exhibits that from the very beginning of the Exposition was of the greatest interest, especially to physicians. Here were gathered together the hygienic exhibits of the various states and foreign countries, and while as was natural the most entertaining exhibits concerned the warfare against the acute infections and the tropical diseases, no inconsiderable portion of the space in many of the sections was devoted to the contest against the great white plague.

France illustrated her anti-tuberculosis campaign only indirectly. In Paris, as well as in the large French cities, a spectacular battle is being waged against the abuse of alcohol. Walls and bill boards are covered with posters impressing and illustrating the pernicious effect of strong drink, and at least so far as the French exhibit showed, the fight against tuberculosis is only an appendage of that against intemperance. Side by side with placards declaiming against the use of alcohol as the great predisposer to tuberculosis, are others warning against spitting in public and against bad hygiene of all sorts as aiding the spread of consumption. Whatever may be thought of the poster method of combating intemperance, the spreading among the public of correct notions concerning the causes and contagiousness of consumption can only be productive of good. An amusing exhibit in the same section was a so-called sun-villa, intended as a residence for a wealthy consumptive. It is a model of a rather fantastically designed house, the front of which, containing the living and sleeping rooms, consists chiefly of windows. The entire building revolves on ball-bearings so that the front may always be kept turned towards the sun. It is so well balanced that, as the prospectus puts it, "a maid-servant can turn it." The water supply, sewage, etc., are disposed in the axis of the house so as not to be interfered with by its revolution. A sun parlor would seem to serve the same purpose.

The Japanese, while their hygienic exhibit was second in interest only to that of the German empire, seem as yet to be paying comparatively little attention to tuberculosis. They exhibited a variety of tuberculins and anti-tuberculous sera, but seem not to have entered upon a real contest against consumption as a sociologic evil.

Cuba, too, in her exhibit illustrated chiefly the attempt to abolish yellow fever and malaria by means of the extermination of the mosquito and by preventing the access of mosquitoes to infected individuals. A beginning has, however, been made as regards a scientific attempt to reduce the mortality from tuberculosis. To that effect the Havana Health Department "runs a dispensary exclusively dedicated to the care and treatment of pulmonary troubles, whereby the outdoor patients are benefited, while an opportunity is afforded for coming in touch with the incipient cases that otherwise would escape the action of the authorities. The physical culture of the children is also given in the same building, after which they get some nourishment, so much wanted by that class of patients. The anti-tuberculosis plan includes the inspection of houses, hotels, boarding houses, cigar factories, dairy stables, etc., and the disinfection of premises, as well as the delivery of lectures on the prophylaxis of the disease in all factories and institutions, besides the distribution of pamphlets and circulars with the recommendations to be followed for the prevention and hygiene of tuberculosis."

The German hygienic exhibit, by far the most instructive and complete demonstration of methods and results shown at the Exposition, contained also much of great interest concerning tuberculosis. The Imperial Health Department at Berlin contributed a number of statistical charts illustrating the mortality from tuberculosis in town and country. Thus while 31 per cent. of all deaths in Europe, at least among those aged fifteen to sixty years, must be ascribed to tuberculosis, the great bulk of these deaths occur in the cities, the country districts showing a very low tuberculosis mortality. The various hygienic institutes, both municipal and university, contributed exhibits of laboratory apparatus, sputum cups, sera, cultures, etc., etc. A striking demonstration of the menace to the health of the community formed by a coughing consumptive, deserves special mention. It consisted of three large glass plates which had been placed before a coughing consumptive at distances of a quarter, half and one meter. The plates were then fixed, stained and counterstained in the usual manner. The tiny drops of sputum on each plate appeared as small blue specks and varied in number about inversely as the square of the distances at which the plates had been exposed. Each one of these blue specks, upon microscopic examination, was found to contain tubercle bacilli. A model "broadside," containing instructions for the consumptive and for his family, was exposed for distribution in both the English and the German language.

In another building the German sanatoria had their exhibit, and here could be seen photographs and plans of the institutions for the care of early cases of tuberculosis—institutions in which Germany is perhaps richer than any other country and upon which chiefly she relies in her contest with tuberculosis.

It is, however, in the operation of the German law for the compulsory insurance of workmen that her chief hope of the future lies. In Germany much more than in this country, the bulk of the workingmen earn only just enough to support themselves and their families. Practically they are unable to lay aside any appreciable proportion of their income, and so when illness, accident or old age supervene they would, if left to themselves, find themselves penniless and forced to have recourse to charity. This the compulsory insurance law is intended to avert. Each workingman is compelled to deposit with the government, by means of the purchase of stamps, a certain small sum weekly, depending upon the amount of his wages. His employer contributes a similar sum, and the government also adds its quota. From the fund so obtained the workingman draws a corresponding income in case of illness or accident, which may be temporary or take the form of a pension, according as his injury is transient or permanent. In any case he gets his medical attendance, drugs, etc., free of charge. The active management of these matters of insurance devolves upon local associations (*Kassen*), on the boards of directors of which both employers and employes are represented. In many cases it is clearly to the patient's advantage to be given hospital treatment, and in that event he is sent to a suitable hospital, the hospital care being counted as equivalent to part of his insurance money and the rest being paid to his family for their support. Since the entire mass of the industrial population participates in this insurance scheme, the hopelessly sick being admitted on the same terms as the robust, the *Kassen* from the very beginning found themselves with a great number of consumptives on their hands, who required not only pensions but medical treatment. The result was that sanatoria for the care of the tuberculous sprang up all over Germany, each local association or group of associations vying with the others in the perfection of equipment and salubrity of location of its sanatorium. Groups of associations, sometimes very large, often combined for this purpose and succeeded in erecting and maintaining tuberculosis hospitals, that are among the best in the world. It soon, however, became clear that it was not only better for the community, but cheaper for the insurance organization, to prevent a consumptive from losing his ability to work than merely to care for him after he had become an invalid. And so, while the law originally intended to grant insurance only against actual disability, it has since 1889 been extended so as to enable it to act prophylactically. The various insurance associations have carried out this plan with varying degrees of energy. The exhibit of the insurance department of the Hansa towns (Hamburg, Bremen, Luebeck, etc.) is especially complete and interesting on this point. The authorities there have tried their utmost to persuade patients not to wait until no longer able to earn a living, but to undergo a course of treatment at a sanatorium as soon as the diagnosis of pulmonary tuberculosis was established.

Notices were sent to all the insured workingmen detailing the symptoms that might point to incipient phthisis, and urging all who suspected that they might have the disease to consult a physician, and if the diagnosis were established to submit to a course of institutional treatment. Appended were directions concerning the danger from sputum and rules as to its disposal. Of late, inspectors have been sent into the poorer quarters of the afflicted cities to report cases and to urge early treatment. At first the response was very meager, only two patients being admitted to treatment in 1892 and only thirteen in the following year. In the course of time, however, the conviction of the importance of early treatment of phthisis has permeated the working population more and more, so that last year over seventeen hundred cases of incipient phthisis were admitted to the sanatoria of the Hansa cities. The requirements for admission are simple. The applicant, who of course must be a member of the local insurance group, must present a certificate from a qualified physician, stating first that he has pulmonary tuberculosis, and second, that his condition is such that a course of sanatorium treatment may be expected to preserve the patient's ability to work, or, if partly lost, to restore it in a reasonable space of time. There is no absolute limit set to the time a patient is permitted to stay. He is discharged when, in the opinion of the director, the ability to work like any one else has been fully restored, or, on the other hand, when it has become clear that such a restoration is out of the question. Any description of these sanatoria, located in the most beautiful portions of the Harz mountains, would be out of place since they do not differ essentially from others. The results have been very encouraging. Some 19 per cent. have been entirely cured anatomically, and another 19 per cent. very nearly so. Over 92 per cent. were discharged greatly improved; 77 per cent. were able to work as well as before their illness. What effect these measures will have upon the health of the community, of course, remains to be seen, but it can hardly be otherwise than strikingly good. Certainly it is a case of enlightened economy and public beneficence going hand in hand.

There is another way in which these sanatoria protect the health of the community, and so indirectly economize insurance. Many of these consumptives expectorate tubercle bacilli and so tend to spread the infection. If this is often true of these cases of incipient phthisis, it is true to a far greater extent of those patients with advanced consumption not eligible for admission to the hospitals discussed above. For these unfortunates, both for humanitarian reasons and from the point of view of economy, the insurance boards, and again above all those of the Hansa cities, have built homes. Here, hopeless cases of consumption are segregated for their own comfort and for the protection of the community. No compulsion is used, and in spite of attempts to make them as comfortable as may be, it has not been found possible for various

reasons to keep a considerable portion of the inmates from returning home. But even these have during their more or less brief stay in the home been trained in personal hygiene and in the care of their sputum, so that they leave the institution far less a menace to the public health than they entered it.

It is thus clear that the results of Germany's compulsory insurance upon the fight against tuberculosis furnish quite as strong an argument in favor of the law as do the social-political reasons on account of which it was enacted.

In our country, too, the fight against tuberculosis has of late begun to be waged with great earnestness and system. Various sanatoria exhibited plans, photographs and models, and many of the tent manufacturers and instrument makers had interesting exhibits. A modest little wall cabinet containing plans and sundry information gave evidence of the excellent work done in Philadelphia by the Henry Phipps Institute for the study, treatment and prevention of tuberculosis. The institute was founded through the generosity of Mr. Henry Phipps, of Pittsburg. Mr. Phipps selected Dr. Lawrence F. Flick, of Pittsburg, as the head of the proposed institution, and the two gentlemen made a preliminary inspection of European hospitals and dispensaries for the consumptive poor before formulating their plans. On February 1, 1903, the institute opened its first clinic in this country for the sole treatment of cases of tuberculosis. Temporary quarters were found at 238 Pine street, Philadelphia, in the heart of the congested district, where an old house was converted into a fairly adequate hospital. At the end of the first year the institute had in its service a trained staff of twenty-one physicians besides the corps of nurses, inspectors and attendants. In the dispensary, morning and afternoon clinics are held daily except on Sunday, and a daily average of forty patients are treated. The qualifications for treatment are:

1. The patient must be tuberculous.
2. He must be too poor to obtain paid medical attendance.

In addition to medicine, patients are supplied with milk in quantities from one to four quarts daily; also spit cups, paper napkins and disinfectants are given with explicit directions as to hygiene. These last are distributed in the shape of little folders containing full instructions as to the danger to others from tuberculous sputum and the best manner of disposing of the latter, directions as to the proper mode of life and ending with a few well formulated words of encouragement. A supply of these folders was kept on hand at the place of exhibit for distribution to all interested.

A corps of inspectors visits the patients in their homes at regular intervals to insist upon the observance of strict hygiene and to instruct in its details. The hospital wards, which were opened a short time after the dispensary, are used to segregate incurable cases for purposes of

prevention and to supply clinical material for scientific research. The only demand made of the family of each patient before admission, is a document signed by the nearest relative permitting an autopsy in case of death. As careful post mortem examination is made of every patient that dies, a valuable fund of data is rapidly accumulating that is destined to become of great importance in increasing our knowledge of this disease. At present about fifty ward cases can be accommodated at one time, but a rapid growth of the hospital in the near future is certain.

As a part of the educational work of the institute an international series of five lectures has been given in Philadelphia during the past winter. To these last not only the entire medical profession of the vicinity, but also the general public were invited. The lecturers were: Dr. Edward Trudeau, of New York; Prof. Sims Woodhead, of Cambridge, England; Dr. William Osler, of Baltimore; Dr. Herman Briggs, of New York and Prof. E. Maragliano, of Genoa, Italy.

The health department of St. Paul has an interesting exhibit of pictures and literature that shows it also to be handling the question of tuberculosis in vigorous fashion. Not only have stringent anti-spitting laws been adopted, but tuberculosis has been placed on the list of infectious diseases and all cases, both in private practice and in institutions, must be reported. How thoroughly this rule can be enforced remains to be seen. As yet the health department takes no action upon these reported cases, being content with seeing to the thorough disinfection of all apartments formerly occupied by a consumptive and vacated by the death or removal of the patient. The owners of such apartments are required to disinfect them in a manner satisfactory to the department. Failure to do so is followed by the posting of the following placard upon the door of the infected premises.

NOTICE.

Tuberculosis is a communicable disease. These apartments have been occupied by a consumptive and may have become infected. They must not be occupied until the order of the health commissioner directing their renovation and disinfection has been complied with.

This notice must not be removed under penalty of law, except by the commissioner of health or an authorized officer.

And such placard shall not be removed until such time as the order or directions of the commissioner of health shall have been complied with and the removal of such placard authorized by the commissioner of health.

This invariably suffices to bring the delinquent landlord to terms.

The most instructive of the American hygienic exhibits was that of the New York City Department of Health. It filled a large number of wall cabinets and consisted of pictures, plans and the like, illustrating

chiefly the efforts made by the department in the direction of preventive medicine. The exhibits illustrating the attempts now being made in New York towards an administrative control of tuberculosis were of particular interest. The work of the New York City Department of Health, under the direction of its able general medical officer, Dr. Hermann M. Biggs, is well known, and yet a brief recapitulation may not be out of place here. The central feature is an elaborate system of registration. Every physician is required to report each case of tuberculosis that comes under his care—name, address, sex, age, color, nationality and the character of his dwelling. Moreover, the department conducts a laboratory for the free examination of specimens of sputum sent in by physicians and the sending in a specimen in which tubercle bacilli are found is considered equivalent to a notification, the information necessary for registration being required with each specimen of sputum sent in. It was at first feared that this compulsory system of notification might give rise to much opposition, and even work hardship in some cases, but the results have not justified these forebodings. This is in part due to a wise limitation of the activity of the department, as stated in the following provision:

“The information thus obtained regarding private cases is for record, and in no instance are visits made to such persons by the inspectors of the department, nor does the department of health assume any sanitary surveillance of such cases (unless the person resides in a tenement house or lodging house, or unless the attending physician requests that an inspection of the premises be made). In no case where the person resides in a tenement house will any action be taken, if the physician requests that no visits be made by inspectors and is willing himself to deliver circulars of information or to furnish such equivalent information as is required to prevent the communication of the disease to others.

“Once a year the attending physician is requested by letter to inform the department whether the patient is still living; if so, where, and whether his condition has changed for the worse or better. Physicians are especially requested to notify the department of any change of address on the part of their consumptive patients.”

Cases are still more readily and completely registered from the reports required from all public or private institutions and from reports made by tenement and other inspectors. It has been estimated that in this manner about 85 per cent. of all cases of tuberculosis occurring in New York City are reported and registered with the health department. Those cases that occur in tenement or lodging houses, and that therefore are a greater menace to the health of the community than those living in private houses, are visited by inspectors of the department unless the attending physician has requested that no visits be made. The inspector notes the hygienic surroundings of the patient and gives such advice and instructions as the case may require. Where patients are

incapacitated for work the inspector refers the case to a department nurse, who repeatedly visits the case, ascertains whether instructions are being observed, distributes sputum cups, and makes herself generally useful. When help in the way of diet, fuel and the like is required, the charity organizations are notified and supply what is needed.

When application is made to the department for the admission of a case of pulmonary tuberculosis to a hospital, or when an inspector finds that a consumptive cannot receive proper care, food, or medical attention at his home, or when, either willfully or otherwise, he constitutes a danger or menace to those about him, the case is referred to the department of charities, with the recommendation that he be sent either to the city hospital for consumptives on Blackwell's Island, or to Seton hospital, where the city maintains a number of free beds.

In instances where the consumptive absolutely refuses to take the necessary precautions as to the proper disposal of the sputum, etc., the department of health will enforce removal. It has fitted up special pavilions for advanced cases at Riverside hospital (the Riverside sanatorium for pulmonary diseases), where such cases may be sent at a few hours' notice, and detained if necessary.

In addition to the above, the department carries out the disinfection of the rooms vacated by a consumptive, and, in case of his death, of the carpets, bedding, etc.; also, forbidding the reoccupation of the apartment until the disinfection has been completely carried out. The department moreover conducts a campaign of education on this subject, endeavoring by means of circulars and pamphlets, as well as through the work of inspectors and nurses, to spread among the laity, both tuberculous and healthy, a knowledge of the hygiene and prevention of tuberculosis. An efficient supplement to the work of the department is formed by the activity of the municipal clinic for the treatment of pulmonary diseases. This clinic was opened on March 1, 1904, in a new building especially designed for the purpose.

It contains a registration room, drug room, two waiting rooms, x-ray room, throat department, and two clinics, for male and female patients, respectively, each with its examination room. The rooms are well ventilated and are all lighted by skylights, the building being only one story in height. Trained nurses are always in attendance. It is hoped that the establishment of the clinic will assist in attaining the following objects:

1. The early recognition and accurate diagnosis of pulmonary tuberculosis.
2. The careful supervision of persons receiving treatment.
3. The continued observation at their homes of indigent, needy and ambulatory cases, including all those discharged from the public institutions of the city.

4. The removal of cases requiring such care to a hospital or sanatorium.

5. The provision of a municipal institution where cases of tuberculosis may be referred.

6. The extension and strengthening of the sanitary control of tuberculosis among the poor by the department of health.

7. The care of laryngeal cases.

The beneficial results of these measures have already begun to show themselves. The fall in the tuberculous death rate has been greater in New York than in any other large city in the world, and that in spite of the fact that the conditions in New York—her large foreign population, huddled together in great tenements—make such work of peculiar difficulty. Her total tuberculous death rate has fallen 40 per cent. in the last sixteen years, and the decrease in the death rate of children from pulmonary tuberculosis and tuberculous meningitis, these being the two forms most accurately diagnosed, has been even greater. It seems certain that the future will see a reduction quite equal to that which has already taken place.

While thus the tuberculosis exhibit as a whole offers much ground for satisfaction, it furnishes quite as strong reasons for regret. New York city and Germany alone exhibited systematic attempts to combat the spread of tuberculosis, and each of the two systems used in either place lacks many of the merits of the other. Modern sanitary science will wage the most effective war possible against tuberculosis only when both the German and the New York methods are applied. The prophylaxis and therapeutics of tuberculosis are inextricably interwoven. While the New York system is eminently correct, as far as it goes, it requires for its completion the addition of a sanatorium system like that of the Germans. Not only would the removal from the community of a considerable proportion of the early cases of tuberculosis remove many sources of contagion, but even if many of these individuals return to their homes uncured they have received so thorough a course of training in personal hygiene, and especially in the proper disposal of their sputum, that they not only cease to be a menace to the community, but may well become centers of popular education in these matters. It is true that we Americans are not so docile as the Germans about going to a hospital, and yet a well equipped and comfortable sanatorium for incipient phthisis would probably never lack applicants for admission. The contagiousness of leprosy and tuberculosis are probably not far apart, and the intelligent but humane sanitary science of the present may yet succeed in eradicating tuberculosis from our midst as nearly as the barbarous segregation of the middle ages succeeded in stamping out European leprosy.

RADIOGRAPHY AND ROENTGEN APPARATUS.

BY PH. BOCKENHEIMER, Berlin, Germany.

In the year 1895, Wilhelm Konrad Roentgen discovered the x-rays. It soon became obvious that this discovery was of the greatest importance for all departments of medical work. A new branch of science, radiography, arose, the aim of which was to study the manifold possibilities for the utilization of the Roentgen rays in the interests of medical science. Eminent investigators have devoted all their energies to the perfecting of the technical methods. Moreover, journals and societies have been inaugurated for furthering these aims. At the universities, radiography has become one of the regular subjects of instruction. By means of radiography, science has been enriched by an enormous amount of new and valuable knowledge.

In internal medicine the application of the system is attended with great difficulties, since here the substances under observation afford an equally easy passage to the rays. Notwithstanding this the Roentgen ray methods have been brought to such perfection that they have become a most valuable diagnostic aid in internal medicine. To mention but a few examples, we can, by means of the orthodiagraph, observe the pulsation of the heart and determine its limits. Further, one is able to observe the respiration process in detail, and to recognize positively certain changes in the lungs, such as infiltration of the apices of the same. Here, moreover, the Roentgen rays do not only give diagnostic indications, but also make it possible to observe whether the changes due to disease, increase or—perhaps in consequence of a course of treatment—diminish in intensity. In contrast to the more subjective method of auscultation and percussion, for the first time it has become possible to make use of an objective, physical method for the examination of the lungs.

In respect to surgery, radiography has proved itself epoch-making. What modern surgeon would undertake to cure a case of fracture or luxation without the aid of x-rays? Through them alone can the diagnosis be made really reliable and the course of improvement established. Accordingly, a number of the most noteworthy modern advances in the treatment of fractures are due to the application of radiography. For instance, Prof. von Bergmann has invented a system by which fractures of the extremities are treated in the following manner on a special extension table which was on exhibition in the surgical department. The broken limb in question is kept in a stretched position (being at the same time kept under supervision by means of Roentgen rays), until it is considered by the surgeon to be properly set and can be held in position by a bandage. The recognition of numerous joint diseases has become possible for the surgeon only since the introduction of radio-

graphy, indeed the Roentgen system has registered its most striking triumphs in this very province of surgical practice—take congenital hip-luxation for example. The Roentgen photograph is the surest means of determining the position of foreign bodies of all kinds which have entered any of the organs from without. The position of foreign bodies which arise in the organs themselves, such as ptyalism stones, gall stones, stones in the kidney or bladder, is now ascertained with ease by means of the Roentgen rays.

Dr. Albers-Schoenberg, of Hamburg, has, in the so-called compression-diaphragm (which was on view in the exhibition), contrived an apparatus by means of which satisfactory photographs can be obtained of formations which are far beneath the surface of the body and which can otherwise be reached by the Roentgen rays only with great difficulty. A collection of such Roentgen pictures was exhibited by Dr. Albers-Schoenberg and Prof. Grunmach, Berlin.

By means of the compressed diaphragm of Dr. Albers-Schoenberg it is possible to obtain sharper outlines and better contrasts, besides greater clearness, when photographing parts which are not easily accessible (such as the lumbar vertebra, stone in the kidneys, etc.)

This apparatus consists essentially of a lead-lined cylinder (press cylinder), which is fixed to a metal stand in such a manner that it can be moved easily in any direction. To the upper end of the tube, which has a central opening, a wooden frame is fixed, in which lead diaphragms can be placed, and which likewise carries the Roentgen tube. The importance of this apparatus for Roentgen photography lies in the fact that it enables difficult objects to be taken with great clearness, since, by pressing the tube down, the parts which have to be photographed are thereby more or less held in position and the distance between the tube and those parts is reduced, and consequently the absorption of Roentgen rays and the formation of secondary rays by the intervening parts are greatly diminished.

Besides being of the utmost importance in the departments of internal medicine and surgery, the Roentgen rays have also shown their significance in a great number of special fields: especially noteworthy in this connection is their employment (with very small plates) in determining diseases of the teeth and in the treatment of certain skin diseases. It is, however, as yet impossible to give a conclusive verdict on their successes in this last department.

Finally, mention must be made of the fact that the Roentgen methods are making continual advances in the domain of scientific experimental research. Dr. Kuemmell, of Hamburg, has the credit of having, by injecting a substance impenetrable to the Roentgen rays into the blood vessels, obtained stereoscopic Roentgen photographs which admirably show the distribution of the blood in the organism, and especially the course of the blood vessels in the extremities. Led by the same idea,

Prof. Dr. Lexer, of Berlin, has, by injecting quicksilver oil into the blood vessels of the bones, ascertained their course, which was hitherto unknown, and by this means has been the first to explain the characteristic course of various diseases.

Just as the more delicate preception of microscopic life is associated with the invention of Abbe's illuminating apparatus, so would the achievements in the province of radiography have been inconceivable without a continuous improvement in the technical methods. We may mention, for example, the progress made in the manufacture of inductors for producing great sparking distances; inductors can now be had with a sparking distance of 1 m—and only with these can a really satisfactory view of many objects be obtained. The comprehensive exhibit of the firm of Siemens and Halske gave a practical illustration of the high point already reached in the production of Roentgen apparatus and all the details pertaining to them. But Siemens and Halske's exhibit showed, further, that technical science is doing its best to meet all the outward claims, both great and small, of practical work; it not only manufactures larger apparatus intended only for the clinic institutes, but also small, light apparatus which the general practitioner in the country or the military doctor in the field can carry about with them. During the China and Transvaal wars the significance of radiography in field surgery was most convincingly demonstrated. Thus radiography is a province in which, as the exhibition has shown, physician and technicist must supplement one another's work in continual co-operation, in order to gain from the system all that it is capable of yielding. If this co-operation is continued as it has been up to the present, Roentgen's epoch-making discovery will bring to light many a precious buried treasure and illuminate much that has hitherto been inaccessible to the imperfect means available.

“MOULAGEN:” REPRODUCTION OF DISEASE IN PLASTER OF
PARIS AND IN WAX MODELS.

By M. F. ENGMAN, M. D., of St. Louis.

The aim of the Medical Exhibit at the World's Fair is to show how the German universities deal with the subject of medical instruction. In wandering through the aisles of this wonderful display the eye catches here and there realistic portrayals of anatomical dissections; steps in operations and various syphilitic, tuberculous and other skin diseases reproduced with almost life-like minuteness in wax and plaster. To see these works of art is to at once realize their value as a method of instruction. Here we have before us in inanimate models the disease, or the operation, or the dissection as minutely detailed as it would be in life. In giving a course of instruction how valuable it is to have such models in the acme of perfection for reference, as we know how difficult it is to obtain living examples of any particular subject, just at the time we wish it.

The Hospital St. Louis, in Paris, was one of the first institutions to adopt this method of portraying skin diseases. Their wonderful and valuable collection in wax filled one of the large halls of the hospital, and is called the Museum Beretti. In this museum one could study almost any of the rarer diseases of the skin in life-like models: the color, arrangement and various stages of the initial eruption is carried out to the minutest detail. In fact, one was often startled by their life-like appearance.

In all of the German universities this method seems to be now in vogue, for the teaching of the various manifestations of disease, not only upon the skin, but in various other organs. These models are made by first taking a plaster of paris impression or cast of the part to be reproduced, from which the wax model is made and then colored by the artist, from the living subject. In this way every papule, vesicle, pustule and crust is detailed in its exact position. The accurateness of the color effects and the arrangement of the lesions in the various conditions are wonderful.

In the German exhibit at the World's Fair a number of cases are filled with these models, the best that I have yet seen. Prof. Lassar, of Berlin, exhibits models of various forms of skin tuberculosis affecting various localities of the body. These are excellent, and, no doubt, have proved valuable to those having seen them in this section of the country, where tuberculosis of the skin is so rare. Lupus vulgaris, the most common form of tuberculosis of the skin, is particularly well portrayed, and should be very instructive to those who insist upon calling rodent ulcer and epithelioma lupus. Here we see lupus portrayed in all its various stages, from the first initial patch upon the cheek to the horrible,

mutilating forms in which the visage is rendered hardly human. The pale yellow nodules and their arrangement here portrayed should convince anyone of the clinical difference between rodent ulcer and lupus vulgaris.

Mr. Fritz Kolbow, of Berlin, the manufacturer of these moulagen, has the most wonderful and life-like specimens of this art. He exhibits models of various diseases of the eye and conjunctiva, including the various forms of conjunctivitis, diphtheria of the conjunctiva, gonorrhoea and epithelioma; also the exanthemata, in which the scarlet fever tongue and eruption is beautifully represented. Models showing the typical varicella, pemphigus neonatorum, variola and so-called syphilitic pemphigus, allow one to see these diseases side by side. He has also beautiful models of the various forms of tuberculosis of the skin, lungs, glands, spleen, kidneys, intestines and larynx. In this collection can be seen different types of carcinoma of the mamma, laryngeal carcinoma and metastatic involvement of the various organs.

Adolph Seifert, also of Berlin, and a manufacturer of these models, has an excellent exhibit of various portions of bone, cartilage and anatomical sections.

To the dermatologist the most instructive of all of these exhibits of moulagen is that from Prof. Dr. Neisser's dermatological hospital at Breslau, and of Alphonse Kroener. In this collection many of the rarest skin diseases are portrayed, also many of the more common diseases of the skin. A model labeled adenoma sebaceum is particularly good; not only the disease, but the character of the whole model in representing the individual from which the cast was taken is in complete harmony. It is surprising to note in the circular given at this exhibit that some of these models are sold as low as eight dollars, including duty. This price would make this form of teaching practical, as I suppose the models would be much cheaper to one who used a great number of them, and, as they are durable, they can, with ordinary care, be used for a number of years.

One can only express his admiration of the ingenuity, energy and care which the Germans use in their instruction of students. We have most of us received practical demonstration of these facts in the lecture rooms, hospitals and museums of Germany. We love to look back upon those days and remember the gratification we felt at their efforts. When we go into the medical display of the German exhibit in the Educational Building of the World's Fair we see much that is not new to us, things that we have seen in Germany before, but also very, very many things that are new. Since the writer's student days the moulagen have come into practical use, and are no doubt of the greatest value to the student and teacher: and not only in this way are they valuable, but through this art one can place upon permanent record the character of a rare condition which otherwise would have been lost.

EDITORIAL COMMENT.

HOME FOR ST. LOUIS MEDICAL LIBRARY ASSOCIATION.

The medical profession of this city, and especially the members of the St. Louis Medical Library Association, have reason to be congratulated upon the fact that the possession by this association of a suitable building of its own on Pine street, near Grand avenue, is *un fait accompli*. It should be a red-letter day in the annals of the medical profession of this conservative city, as it means more than first appears on the surface for the unifying and strengthening of the body medical, and will serve to bring the members into closer and more friendly relations. It is but several years ago that this Medical Library Association began in a very small way. After struggling along, it has finally been able, by the assistance of a few, to weather the storm, so that now it is more than an experiment—it is an assured reality. What has been done recently could have been accomplished much earlier, and the fault lies alone at the door of the medical profession. It does seem strange that a city the fourth in size in the United States should not have had a medical library and home sooner. However, it has come to stay, and the association is growing in numbers and importance, and now that it possesses a home, it will receive a new impetus in its growth and usefulness. It will serve, let us hope, as a center around which will cluster and develop the various medical interests in the city. Concerning this more can be said in the near future. Let us hope the members of the medical profession will rally to its support and assist in its development.

THE MEDICAL EXHIBIT AT THE LOUISIANA PURCHASE EXPOSITION.

It is a fitting testimony to the wider meaning of the World's Fair which has just ended that in the columns of a medical journal should appear an account of the impressions which the medical exhibit has made upon some of those most deeply interested in it. This recognition of a border-land territory in which the profession and the intelligent laity may meet in common interest is significant, chiefly of the broader place that medicine has taken in the problems of society. Preventive medicine is to be looked upon, not only as a system of facts bearing upon disease won by the use of technical methods and experiences, but as a very vital part of the problems which society is trying to solve. To increase the individual's capacity to live rightly and to preserve his activity, normally expressed for as long a period as possible, makes him of greater service to society, of which he is a part. To interpret this was one of the important services of the hygienic exhibit. How admirably

this was done can be seen from the accounts of the different phases of this question which are set down in this issue of the journal. As a part of the general tendency towards a wider scope of medicine is the important place which the teaching of medicine has come to fill. The exhibit of methods by which advances have come about, as well as a demonstration of the means of showing this to others in addition to measures used in placing before the student in the best way the facts already known, form the newer pedagogical science in medicine. The removal from the isolation which the teachings of medicine has so long held from all other teaching forms the chief notable advance in the past few years. No one can read the articles here referred to without feeling that there is a great emphasis placed upon the importance of inspiring in others the meaning which these demonstrations have. This, together with the methods that best accomplish it, is teaching and teaching no less in medicine than in anything else. Thus is found in the medical exhibit an attempt to correlate in the broadest way with the rest of human knowledge the special message which medicine has for the human race. In this way unconsciously perhaps the medical exhibit has echoed and become a part of the high purpose of the most striking feature of the exposition—that is the Congress of Arts and Sciences which was the interdependence and the correlation of all human knowledge. To interpret this rather than the glorification of any particular branch or any particular country is the chief purpose of the series of papers to which this issue of the journal is devoted.

ERRATUM.

In our issue of November an error occurred in printing the name of the author of the paper entitled "Strabismus: The Necessity for Its Early Treatment." This paper was written by Harry C. Parker, M. D., of Boston, but through an error the author's name was printed "Harry C. Baker."

BOOK REVIEWS.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS, COMPRISING TEN VOLUMES ON THE YEAR'S PROGRESS IN MEDICINE AND SURGERY. Issued monthly under the general editorial charge of GUSTAVUS P. HEAD. M. D. July, 1904. Chicago: The Year-Book Publishers.

The July number of the Year-Book continues the plan of its predecessors. Nearly half is occupied by a complete and very interesting summary of recent publications in materia medica and therapeutics, by Dr. George F. Butler and Dr. George L. Browning. There follows a chapter on preventive medicine by Dr. Henry B. Favill and one on climatology by Dr. Norman Bridge. In the latter, recent publications on climatology are abstracted with a good deal of fullness, so that the reader gets practically all the information that could be derived from a perusal of the original articles. The chapter on climatology, by Dr. Daniel R. Brower, is vague and unsatisfactory, qualities apparently inherent in the nature of the subject. In the concluding chapter on forensic medicine, Dr. Moyer reports a number of interesting and instructive medico-legal cases, among them a very full account of the career as a poisoner of the notorious nurse, Jane Toppan.

SERUMS, VACCINES AND TOXINES IN TREATMENT AND DIAGNOSIS. By WM. CECIL BOSANQUET, M. A., M. D., F. R. C. P., etc. Chicago: W. T. Keener & Co. London: Cassell & Co. Ltd. 1904.

Our knowledge of the nature of infective agents, and of the mode in which we are able to resist them, is of comparatively recent development, and the theories now in vogue to explain the observed facts are still more novel; so that the whole subject forms comparatively unknown ground to the majority of medical practitioners. Yet, the importance of this branch of study is very great: it is in this direction that our insight into the nature of disease has advanced most rapidly, and that the prospects of successful treatment are most encouraging.

The need is, therefore, great of a brief and yet adequate presentation of the subject, discussing it not from the point of view of the laboratory worker, but from that of the practitioner himself. Such a need is well filled by the little volume before us. Bound in flexible cloth, and of a size that admits of its being slipped into the pocket, it yet has nearly 350 pages, its small size being made possible by the very thin and yet opaque paper used. After some sixty pages devoted to an account of serums, toxins and vaccines in general, a chapter each is devoted to diphtheria, tetanus, snake venom, small-pox, rabies, plague, typhoid, cholera, streptococcus infection, tuberculosis, malignant tumors and epizootic diseases. In each case the bacteriology (or its corresponding feature) of the disease is taken up; then the preparation and use of its toxins and antitoxins, serum diagnosis and the like are discussed. The whole is very brief and to the point. The book contains hardly an unnecessary word and yet nothing of importance, up to the most recent theories and discoveries, has been omitted. Few books have appeared in recent years that can be more unreservedly commended.

DISEASES OF THE INTESTINES. By DR. I. BOAS. Second revised and enlarged American edition. Translated by permission from the German edition, with special notations and additions by SEYMOUR BAHL. M. D. New York and London: D. Appleton & Co. 1904.

Since Nothnagel's epoch-making treatise on intestinal diseases, no work on this subject has appeared so valuable as Boas' *Diagnostik und Therapie der Darmkrankheiten*, of which this is a translation. The chapters on the anatomy and physiology of the intestines, as well as those on general and special pathology and diagnosis, are concise and complete and of the highest value, but the chief importance of the work lies in the emphasis it lays on the physical and dietetic management of intestinal disease as com-

pared with its medicinal treatment. The discussions, in particular of the dietetic management of acute and chronic intestinal catarrh, of habitual constipation and of intestinal neuroses, are especially thorough and valuable. The translator has added much valuable material, such as a chapter on intestinal gases, a few pages on American mineral waters, chapters on dysentery, actinomyces and syphilis of the intestines, etc. Of great interest is the contrast between the views expressed by the author and by the translator on the management of appendicitis, the former still advocating the opium treatment with delayed operation while the latter, in harmony with American opinion, urges early surgical interference. The book is one which every physician who is unable to read the original should possess. It is well printed and the illustrations, while simple, are carefully prepared and very instructive. One fault to its get-up is its bulk. The type used is open and the paper very heavy. If the thin and yet opaque paper, that is now at the disposal of publishers, had been used a much more manageable, if less imposing volume, would have resulted.

A MANUAL OF DISEASES OF THE EYE. For Students and General Practitioners. By CLARENCE A. VEASEY, A. M., M. D. 412 pages, illustrated with 194 engravings and 10 colored plates. Philadelphia and New York: Lea Brothers & Co.

"Systematic, practical and concise." These words taken from the preface well express the impression which this excellent manual makes upon the reader. It can readily be seen that Dr. Veasey has a nice appreciation of the requirements of the undergraduate student and the general practitioner, and he has presented to his audience a satisfactory outline of ophthalmology. The chapters on refraction and the accommodation of the eye, and on the anomalies of the ocular muscles are more exhaustive than is usual in works of limited scope. The illustrations which, for the most part are not original, have been carefully chosen and unquestionably add to the value of the book. The reviewer would call attention to the colored plate depicting anomalies and diseases affecting the iris and pupil, which is poorly drawn and crudely tinted. The index is well arranged and complete. We do not hesitate to recommend this little work to the undergraduate student and general practitioner.

TEXT-BOOK OF DISEASES OF THE EYE. For Students and Practitioners of Medicine. By HOWARD A. HANSELL, A. M., M. D., and WILLIAM M. SWEET, M. D. With chapters by CHRISTIAN R. HOLMES, M. D., CASEY A. WOOD, M. D., D. C. L. and WENDELL REBER, M. D. 532 pp. With 256 illustrations, including colored plates. Philadelphia: P. Blakiston's, Son & Company. 1012 Walnut street. 1903.

This work is divided into eighteen chapters, the various topics being considered in the usual order. The book is written for the student of ophthalmology, whether undergraduate or graduate. The commoner affections and traumatisms are dwelt upon at length, whereas refraction, the rarer external diseases of the eye and affections of the posterior segment of the eyeball which have not proved amenable to treatment are rather more briefly considered than is usual in books of similar scope.

Especially to be commended are the illustrations with which the work is lavishly supplied. The original illustrations are beautifully drawn and stand out in such bold relief that at times one feels the superfluity of the explanatory text. The letter press is excellent. Taken all in all, this recent addition to the now large array of American text-books on the eye will surely be welcomed by the student of ophthalmology and is a worthy product of the "Philadelphia School."

UEBER HYSTERISCHE STIMMSTÖRUNG. HASSLAUER. Würtzburger Abhandlungen aus dem Gesamtgebiet der Practischen Medicin. iv. Bd. 10 Heft. A. Stuber's Verlag 1904, Würtzburg.

This is a fairly complete account of the hysterical affections of the larynx, the chief place in which is given naturally to the aphonia. There is first of all a discussion of

the prevailing theories of the significance of hysteria, with a short review of some of the more recent works on this subject. The clinical distinction between the various forms of laryngeal disturbance of this nature are well brought out. In regard to therapy the author recommends, first of all, psychical treatment, by which he understands chiefly gaining the confidence of the patient. The next step in the treatment consists in various forms of training and re-education, together with breathing exercises. The author is quite in line with the best neurological opinion of the day when he opposes the use of hypnotism in this class of cases. The monograph, while it contains nothing new or suggestive, is a very readable account of the subject and for that reason deserves commendation.

HOW TO COOK FOR THE SICK AND CONVALESCENT. By HELENA V. SACHSE. Second edition, revised and enlarged. Philadelphia: J. B. Lippincott Co. 1904.

This is a little cook-book, which seems very well adapted to the needs of physicians, and especially of trained nurses. Since the author in the preface assures us that all the recipes have not only been tried by herself, but have also been successfully used in six hospitals, we feel justified in recommending this little volume to the profession.

ARTERIA UTERINA OVARICA. The Utero-Ovarian Artery or the Genital Vascular Circle. By BYRON ROBINSON, B. S., M. D., Chicago, Ill. Published by E. H. Colgrove, Chicago, Ill. Price, \$1.00.

This volume of 183 pages forms a most noteworthy contribution to our knowledge on the vascular circle of the genital tract. In this monograph for the first time is presented a complete and comprehensive description of the blood supply of the genital organs, and the utility of a proper understanding of these conditions in surgical interventions on the tractus genitalis is brought out forcibly. Most of the 117 illustrations are diagrammatic, and, therefore, illustrate very clearly the points the author wishes to emphasize. Very interesting are the x-ray pictures of injected specimens. This work compares favorably with the numerous previous publications of the writer which have gained for him a prominent place among modern anatomists.

PROGRESSIVE MEDICINE. VOL. III, SEPTEMBER, 1904. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 284 pages, 19 illustrations. Per annum, in four cloth-bound volumes, \$9.00; in paper binding, \$6.00, carriage paid to any address. Lea Brothers & Co., Publishers, Philadelphia and New York.

The September issue contains four divisions: Diseases of the thorax, dermatology, obstetrics and nervous diseases. The work of the preceding year in these four important branches of medicine is summarized in well written critical articles.

Progressive medicine is so well known to the American profession that it would seem superfluous to repeat once more the recommendation to the practitioner to subscribe to this very valuable publication.

DUDLEY'S GYNECOLOGY. NEW (4TH) EDITION. A Treatise on the Principles and Practice of Gynecology. By E. C. DUDLEY, A. M., M. D., Professor of Gynecology in the Northwestern University Medical School, Chicago. New (4th) edition. Revised and enlarged. Octavo, 771 pages, with 401 illustrations, of which 50 are in colors.

and 18 full-page colored plates. Cloth, \$5.00 net; leather, \$6.00 net; half morocco, \$6.50 net.

Probably one of the most striking features of Dudley's well known text-book on gynecology was the clearness of a great number of illustrations representing the various steps of almost all the important gynecological operations. In this new edition all the borrowed engravings have been excluded, and more than three hundred new ones introduced, all reproduced from drawings specially made for this book. This innovation will, undoubtedly, further help to increase the large number of admirers of this work.

SANITARY INVESTIGATIONS OF THE ILLINOIS, MISSISSIPPI AND MISSOURI RIVERS, ETC. Illinois State Board of Health, 1901-1902.

This report is a very important addition to the volume published by the same board about a year ago. It consists of two parts, the first dealing with observations on the sewerage systems and water supplies of Chicago and St. Louis, and with sanitary investigations of the Illinois, Mississippi and Missouri rivers; while the second part contains a report of a chemical and bacterial examination of these three rivers. The material compiled in these reports is immense, and is worked up in a spirit that in scientific exactness and impartiality cannot be equaled. Everyone interested in the water problem will find valuable and reliable information in it.

ANNALI DELL' ISTITUTO MARAGLIANO PER LO STUDIO E LA CURA DELLA TUBERCOLOSI. Pubblicati sotto la Direzione del Prof. E. Maragliano. Genova. Istituto per le Malattie Infettive. Nos. 1 and 2, 1904.

Maragliano is widely known for his work on the etiology and therapy of tuberculosis. Although his opinions vary in many respects from those usually entertained, and his enthusiasm often carries him too far, he will always be named with the foremost in the battle against tuberculosis. The most important part of his work lies in his attempts to procure a vaccination against the tuberculous infection. The results so far published by him are very promising and worthy of the most careful investigation. It is to be considered in this respect as a welcome enterprise to send through the world these annali, modeled after the *Annals de l'Institut Pasteur*, in which the work done at his institute and under his supervision will be made accessible to a greater number of readers than was possible by publication in mostly Italian journals. There is no doubt that the annali will stimulate investigation of the points at issue in other countries, and either rise or fall with the results. The first two numbers contain a great amount of material which shows how busy the school in Genoa is.

TASCHENBUCH FÜR DEN BAKTERIOLOGISCHEN PRAKTIKANTEN. Rudolph Abel, 8. Auflage-Wuerzburg. A. Stuber (C. Kabitzsch). 1904.

With the new additions and corrections the book will be as welcome in its eighth edition as the previous editions were at the time of their publication. The great value of the little compend has been emphasized in a previous number of this journal.

A TEXT-BOOK OF ALKALOIDAL THERAPEUTICS. Being a condensed resume of all available literature on the subject of the active principles added to the personal experience of the authors. By W. F. WAUGH, M. D., and W. C. ABBOTT, M. D., with the collaboration of E. M. EPSTEIN, M. D., Chicago. The Clinic Publishing Co. 1904. Cloth. 405 pages, interleaved. Price, \$2.50.

It is generally recognized that the active principle is superior to the uncertain preparations of drugs usually prescribed, and yet the administration of the alkaloids is not practiced to the extent which the simplicity of preparation and certainty of action following administration would seem to inspire. This volume is, therefore, a welcome ad-

dition to the literature for those physicians who practice alkaloidal therapy because it gives a large fund of information concerning the active principles of many drugs not yet in general use in their alkaloidal form, and serves to enlarge the views of the many physicians who are interested in alkaloidal therapy, but have not adopted it entirely. About 150 different remedies are discussed and among them all the important alkaloids and also concentrations, resinoids and other preparations which may conveniently be included under the general title of "active principles."

DIE KRANKHAFTEN WILLENSSCHWÄCHE. By F. C. R. ESCHLE, M. D.
Fischer's Medicin., Buchhandlung, H. Kornfeld, Berlin. 1904.

The importance of the functions of the will in the so-called functional diseases of the nervous system has been recognized for a long time, but it is only in comparatively recent times that this fact has been used in a practical way therapeutically. The author of this monograph attempts to do this, and as a basis for his therapy he presents a consideration of the psychology of the will and also a scheme to explain its mechanism. This portion of the work is chiefly valuable for the use of the various theories that have been advanced toward this end. Considerations of this kind are, as a rule, very unsatisfactory for the reason that discussions of the will are mainly metaphysical in nature. To attempt to explain the will by the same sort of reasoning that we use in explaining a physical phenomena is always open to the objection that the will must be regarded at present simply as a function of the nervous mechanism and until we understand better than we do at present the nature of nervous activity in general then it is obvious that we will run into difficulties as soon as we attempt to explain a function of a mechanism that is practically unknown. It must not be understood that the reviewer has any objection to such discussions as this is, but in a treatise so obviously meant for definite ends this purely philosophical part seems out of place. Under the title of therapeutic influence upon the disturbances of the will the author has three chapters, the hygienic therapy of the will and their relation to psychical therapy. The psychical therapy of disturbances of the will leading up to educational therapy and the education to work and the task and limits of the work therapy. It is to this latter that attention should be shown as it forms the best part of the book and likewise the most unusual part. We find here a recognition of the service which Gromann has done to this department of therapy and the application of his idea in the special problem at hand. It can be said of this book of Eschle's that it has a very useful place in the library of all neurologists, especially those who are interested in the growing tendency to make use of physiological methods in the treatment of functional nervous diseases.

ADOLESCENCE—ITS PSYCHOLOGY. By G. STANLEY HALL, PH.D., LL.D. D.
Appleton Company, New York. 1904. Vol. I and II.

It is difficult to give in a few words an adequate estimate of this comprehensive work. It represents the results of many years devoted to the requirement of facts and their interpretation upon a subject which has been singularly neglected by psychologists up to this time. It is also an example of a school of psychology of which the author is in a measure the originator, and certainly the foremost representative. The chief characteristic of this school is the utilization of vast arrays of facts collected by systematic observation of human beings in their normal environment and in their normal development as they are seen in schools, society, institutions, in play and in their every day experiences. The data thus collected is interpreted in the light of the author's own psychological system, which is as yet unpublished, and which in his preface he points out should have preceded the appearance of this work. Apart from its philosophical interest there are many things in these two volumes which are of deep interest to the physician who feels the need of a deeper knowledge into the workings of the mind of the adolescents who require his aid and for such there is no work which can fill the want in the way this one does. Attention might be called to the immense variety of information contained in these two volumes and to the largeness of view which has inspired the author in his effort to leave nothing untouched which might throw light on his subject. Such important things as the adolescent girl from the point of view of higher education, the problem of college education for men, co-education, adolescent races, the crimes of adolescence and other subjects of a like nature which at first sight might seem to have little relation to psychology are here treated with the

keenest insight and the finest sense of their close connection to the subject. Finally, it must be admitted that this work is open to the serious objection which critics and particularly continental ones hold against the psychological methods of Stanley Hall, namely, that there is a grave danger in generalizing from data gotten together in this way. Such an objection, however, has no especial weight when the fact is considered that here there is collected a mass of important facts upon the adolescent period which is of paramount interest to the reader as facts. The interpretation of them and the generalizing from them may be based upon the peculiar psychology which Stanley Hall has made his own and thus be open to the criticism mentioned above, but to the physician concerned chiefly in the effort to obtain light upon the adolescent period these volumes are of surpassing importance. For this reason the book is worthy of careful reading and as a result there will follow a better understanding and a more careful consideration of the problems which find in adolescence their chief expression.

CLINICAL LECTURES ON MENTAL DISEASES. By T. S. CLOUSTON, M. D.
Sixth Edition. Lea Brothers & Co., New York. 1904.

The sixth edition of this well-known text-book presents some changes which go to show that the author has felt the impulse of the objective tendency in psychiatry strongly enough to allow his own views to be affected. To Mott and Forbes Robertson, the author, in his preface, gives credit for strengthening this growing influence in respect to the investigations of the pathology of the central nervous system which by every *a priori* reasoning ought to underlie the clinical phenomena which are found in mental diseases.

After all, however, this treatise remains a clinical exposition of the subject and, however much Clouston may himself be inclined to accentuate the importance of pathology the chief merit of this edition, as is the case with the preceding ones, lies in the clear description of actual clinical types. It is a questionable advantage to include in a treatise of this sort pictures of pathological preparations which are supposed to explain in part at any rate the resulting clinical picture so aptly described. Mental pathology does not at present exist and it is a safer course to face this gap in our knowledge rather than to give an undeserved weight to pathological appearances which cannot be regarded as constant or enlightening. For this reason the pathology strikes one as adventitious and dragged in as it were in order to make the book appear fully up to date. Outside of this surrender to the tendencies of the time the book may be said to be admirable as it represents the fruit of the clinical experience of one of the foremost English alienists who is fortunate in possessing in addition to his knowledge of his subject an English style that is very well adapted to clinical description. The classification is as unsatisfactory as classifications in psychiatry are at present likely to be and there are some new terms which are particularly the author's own. Psychalgia and psychlampsia as supplementary terms for melancholia and mania. This multiplication of terms is always regrettable. The author is apparently not especially interested in the controversy concerning dementia præcox. It is alluded to only as referring in rather a vague way to the katatonic form in Kraepelin's classification. The irritation which the continual repetition of the term states of depression states of excitement, etc., cause to the sensitive reader passes away as he is carried on by the accuracy and fidelity of the clinical descriptions. The book is in many respects a model text-book of insanity, especially adapted for the use of those who desire a clinical exposition of the various types of insanity unmixed with much of the discussion which has become so prevalent a part of some recent treatises on this subject. Clouston's work then should be in the hands of those interested in psychiatry because it is a good book and because it represents the development of English psychiatry along the lines of what at present must be regarded as the safest, that is careful clinical observance and description.

A NON-SURGICAL TREATISE ON DISEASES OF THE PROSTATE GLAND AND ADNEXA. By GEORGE WHITFIELD OVERALL, A. B., M. D. Rowe Publishing Co., 1312-34 East Washington street, Chicago.

The virtues of electricity (electrolysis and cataphoresis) as manipulated by the author are extolled in this work, while the usual surgical procedures are more or less arraigned.

THE SURGICAL TREATMENT OF BRIGHT'S DISEASE. By GEORGE M. EDEBOHLS. Frank F. Lisieck, Publisher, 9 to 15 Murray street, New York. 1904.

The thorough and complete way in which Dr. Edebohls presents his cases, and his logical reasoning and conscientious analysis of his results, will do much to impress one, not only with his enthusiasm but with the value of the operation promulgated in this volume.

The literature to date may be found here as well as a report of the operations done by the author.

But while the subject is most excellently covered, yet to agree with the authors' final conclusions that "the evidence submitted not alone justifies the surgical treatment of chronic Bright's disease, but establishes surgery as at present the main, if not the only, hope of sufferers from a hitherto incurable malady," will hardly meet the approval of the many workers in this field.

PROSTATIC HYPERTROPHY FROM EVERY SURGICAL STANDPOINT. By PHILIPS. The Ajod Company, St. Louis, Mo.

This work contains the answers of forty authorities to certain questions propounded them in regard to prostatic hypertrophy.

HANDBUCH DER GEBURTSHILFE. In drei Baenden herausgegeben von F. VON WINCKEL, Professor der Universitaet Muenchen. Verlag von J. F. Bergmann, Wiesbaden. 1904.

We had occasion in the April number of this journal to briefly outline the scope of this gigantic cyclopedia of obstetrics. Another book of 700 pages, which has just appeared, presents the second half of the first volume. Two more volumes of similar dimensions will complete the work. The second half of the first volume is devoted to two subjects: the physiology and therapy of pregnancy and labor. Among the collaborators of the new volume we find the names of many well known teachers of obstetrics, such as Bumm, Herff, Menge, Strassman, Skutsch and others. We can only repeat what we have said in praise of the first part of the volume. This work is a worthy monument of the admirable thoroughness of the German scientist. It claims our admiration and at the same time our envy.

GYNAEKOLOGIE. Fuer Aerzte und Studierende. VON DR. WILHELM NAGEL, Professor der Geburtshilfe der Universitaet in Berlin. Verlag der Fischer's medic. Buchhandlung. Berlin. W. Price \$2.50. (G. E. Stechert, New York).

This is a short manual of gynecology. In looking over this neat volume one necessarily feels inclined to make a comparison with similar American publications. The difference is striking. Here we find most of the limited space devoted to a very careful consideration of the anatomy and pathology of the genital organs and to diagnosis. In order to condense the volume into the shape of a manual only, the more important of the gynecologic operations are briefly described, and we can only say that we heartily agree with this practice. The twenty-seven very good illustrations representing these operations are in the form of special tables separately appended at the end of the volume. In the main the ideas propounded by the writer are identical with those found in American text-books, although the tendency toward a more conservative therapeutics is very marked. It might prove of some advantage for many physicians practicing gynecology in this country, to read the chapters dealing with the use of the pessary, and on pelvic massage.

ANLEITUNG ZUR DIAGNOSE UND THERAPIE DER KEHLKOPF, NASEN UND OHRENKRANKHEITEN. Vorlesungen gehalten in Fortbildungscursen

fuer practische Aerzte, VON DR. RICHARD KAYSER in Breslau. Dritte vermehrte und verbesserte Auflage. Mit 132 Abbildungen. Preis M. 4.80. Berlin 1905. Verlag Von S. Karger. (G. E. Stechert, New York.)

This work embodies a series of lectures which the author has given in his post-graduate courses and is intended as a guide for the student, and as a small work of reference for the general practitioner. The fact that it has reached its third edition in so short a time is ample evidence of its popularity. This edition has been thoroughly revised and much new matter has been added, so that the value of this little book has been greatly enhanced. It bears the distinction of being the first German publication of its kind to include the ear, nose and throat in one volume.

HEALTH, STRENGTH AND POWER. By DUDLEY ALLEN SARGENT, A. M., Sc. D., M. D. Director of Hemenway Gymnasium, Harvard University. Illustrated. New York and Boston: H. M. Caldwell Co. 1904.

Dr. Sargent is qualified to give advice on the question of gymnastics and athletics; he has had an unparalleled chance to observe the results of physical education. He points out clearly in his book that the price we are paying for our boasted civilization, our labor-saving devices, in fact, our tendency to luxury, is becoming apparent in our physical make-ups. The problem we must face is to retain our characteristics as a physically strong race in spite of modern conditions. A certain amount of exercise is necessary and this must be coupled with right living. Dr. Sargent's book tells all this in an interesting way; it is valuable to the physician as well as to the layman. The exercises which he recommends are simple, without apparatus; and the illustrations show without further comment exactly what the author thinks necessary to maintain health, strength and power in youth, manhood and old age.

TOXICOLOGY. A MANUAL FOR STUDENTS AND PRACTITIONERS. By EDWIN WELLES DWIGHT. The Medical Epitome Series. Philadelphia and New York: Lea Bros. & Company.

The essentials of toxicology are given in a way adapted to the capacity of students and general practitioners. The diction of the text is concise, and the statements made based on the utilization of the latest works on the subject. The little work is a reliable guide for toxicologic questions, although, of course, it does not represent much of the theoretic problems involved in these questions.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS, comprising ten volumes on the year's progress in medicine and surgery. Issued monthly. Edited by G. P. HEAD. Vol. IX. Chicago: The Year-Book Publishers. August, 1904.

This volume of the series, the previous ones of which were favorably commented upon in former issues of this journal, deals with the departments of anatomy and pathology, of physiologic bacteriology and of the dictionary of new words. The selection of the publications reviewed is again admirable; the reviews themselves are concise and representative of the work reviewed, so far as the writer can see from his own reading. Certain portions form a very valuable assistance for laboratory workers, consisting in the compilation of new methods and procedures, otherwise only accessible by searching in a number of publications. The series must again be brought to the attention of the practitioner as a reliable source of information on the progress of our science.

DISEASES OF THE NOSE, THROAT AND EAR, AND THEIR ACCESSORY CAVITIES. By SETH SCOTT BISHOP, M. D., D. C. L., LL. D., Honorary President of the Faculty and Professor of Diseases of the Nose,

Throat and Ear in the Illinois Medical College. Third Edition Thoroughly Revised and Enlarged. Illustrated with 94 colored lithographs and 230 additional illustrations. Cloth; pp. 564. Price \$4.00 net. Philadelphia: F. A. Davis Co.

The third edition of Bishop's well known book has been thoroughly revised and partly rearranged; much new matter has been introduced while a great deal of the obsolete has been omitted. The larger part has been devoted to the nose and throat, hence the change of title, though the ear has been given due attention. The literature has been carefully reviewed and frequent recognition and reference to the work of American writers is made by the author, a fact which the foreign authors too frequently overlook. In the preface to the first edition the author states that his book was designed to meet the demands of students and those general practitioners who wished to acquire proficiency to properly treat patients who were unable to visit specialists. His object has been admirably attained.

THERAPEUTIQUE DES MALADIES DE LA PEAU, PAR LE DR. LEREDDE, directeur de l'Établissement Dermatologique de Paris; 1. volume avec figures dans le texte (Masson et Cie, Editeurs).

The first part of this work is devoted to general therapy and enumeration of the different methods employed in the external and internal treatment of skin diseases. The second part is devoted to special therapy. The author summarizes the special characteristics of the dermatoses, the necessary points in their diagnosis, and discusses the most practical methods of relieving their symptoms. The work is completed by the addition of a dermatologic formulary which should be of great service to those interested in the treatment of these diseases. There is a great need for such a book as this of Dr. Leredde's in English, one which will point out the best methods of treatment in a precise and practical way, giving the favorite applications of the author and his personal experiences in the treatment of this class of diseases. The modern text-books on diseases of the skin give a lot of formulas without sufficient remarks upon their action and indication. We would like to see Dr. Leredde's book translated into English.

VERHANDLUNGEN DES VEREINS SÜDDEUTSCHER LARYNGOLOGEN. Herausgegeben im Auftrage des Vereins vom Schriftfuehrer Dr. Medd Georg Avellis, Frankfurt a. M. Preis M. 2.50. A. Stuber's Verlag (C. Kabitzsch). 1904.

This little volume contains the transactions of the meeting of the South German Laryngologists, at Heidelberg during May. A number of extremely interesting and valuable papers were read, notably one by Prof. Killian, "On the Radical Operation for Chronic Empyema of the Antrum of Highmore." The author concurs with Luc that the best results are obtained in this operation when a large communication is made between the antrum and the nose below the inferior turbinate. The minutest details of this operation as performed by Prof. Killian are given, with a discussion by the members present, making this a very valuable publication.

BLOOD-PRESSURE, AS AFFECTING HEART, BRAIN, KIDNEYS AND GENERAL CIRCULATION. By LOUIS FANGERES BISHOP, M. D. New York: E. B. Treat & Co. 1904.

This little volume of 112 pages discusses in a very general fashion the problems of high and low blood-pressure from a clinical point of view. It reads as if it had been made up from a number of journal articles rather hastily thrown together, and, indeed, in the last chapters the author occasionally quotes at considerable length from his previous publications. The technique of blood pressure measurement is not included in the scope of the book.

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